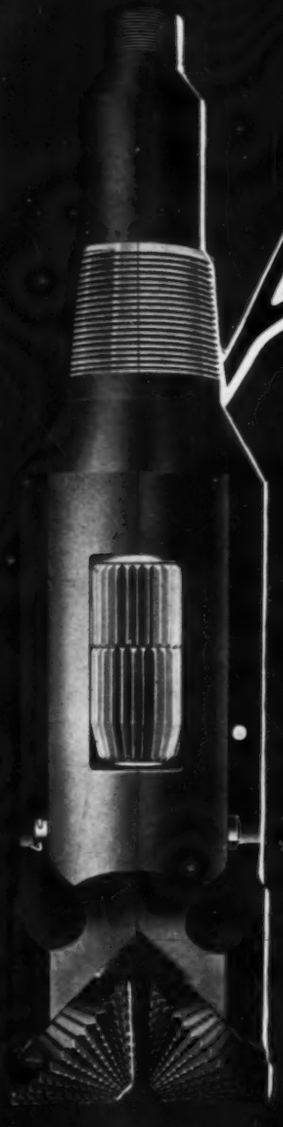
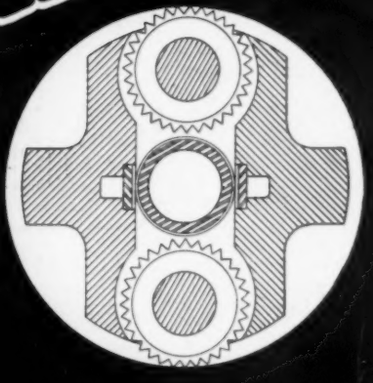
A Journal for
Oil and Gas Producers and Field Men

The OIL WEEKLY

June 26, 1925 — 10 Cents A Copy

Ample Clearance





HUGHES TOOL CO.
MAIN OFFICE & PLANT
HOUSTON, TEXAS
BRANCH PLANTS
LOS ANGELES, CALIF.
OKLAHOMA CITY, OKLA.
EXPORT OFFICE
NEW YORK CITY

"It sums up about like this -

"Twenty-two years of purchasing equipment for one of the largest oil companies in the world has taught me a lot about derricks.

"First—I insist that our derricks must be strong enough to stand up under the heaviest drilling, swabbing and pulling. Second—if they are of metal they must be galvanized against rust to eliminate painting and procure long life. Third—be strong, but light, and compact enough to be easily and quickly transported and erected. Lastly—they must hold up from well to well and year to year. The derricks which I have found live up to these qualifications best are

INTERNATIONAL STEEL IDECO DERRICKS
(GALVANIZED)

"On my recommendation, we have been using these derricks for the past five years, and I have yet to hear a complaint from drillers, superintendents, production managers, or stockholders. I call that a record!"

If you are interested in how "Ideco" Derricks and equipment promote efficiency and save money, write for "Steel vs. Wood." You will certainly make no mistake in adopting and using them.

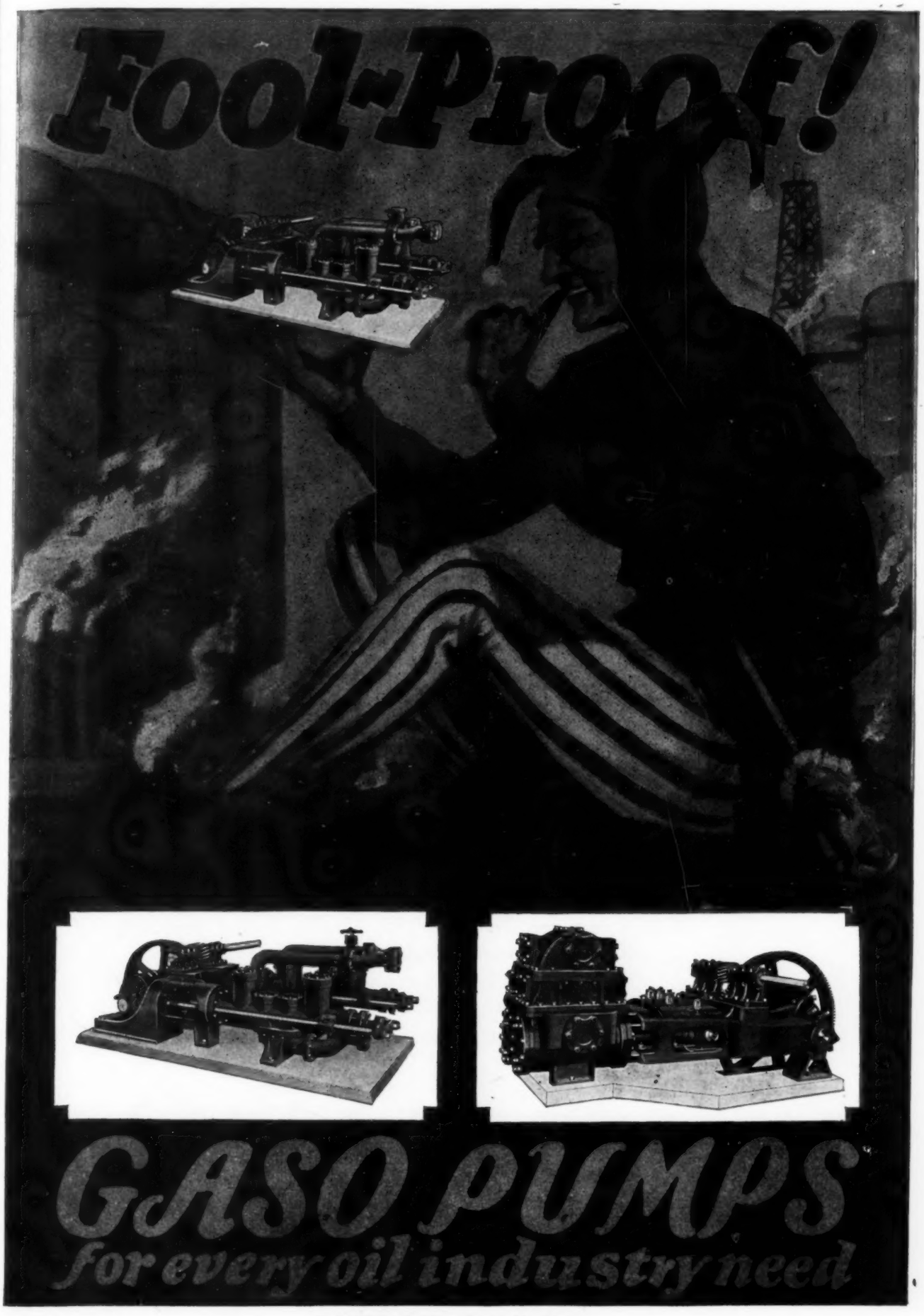
The International Derrick & Equipment Co.

Columbus, Ohio — Los Angeles, Cal.

Tulsa	Casper	Oil City	Wichita Falls
Shreveport	Bakersfield	Smackover	Corsicana
Houston	Taft	El Dorado, Kansas	Mexia
			New York

The largest company devoted exclusively to the manufacture of steel (Galvanized) equipment for the oil, gas and artesian industries.

THE OIL WEEKLY. Issued weekly by the Gulf Publishing Co., 1716 Dallas Ave., Houston, Texas. Subscription price $1.00 per year; 10 cents per copy. Entered as second-class mail matter December 23, 1916, at the post office at Houston, Texas, under act of March 3, 1879.



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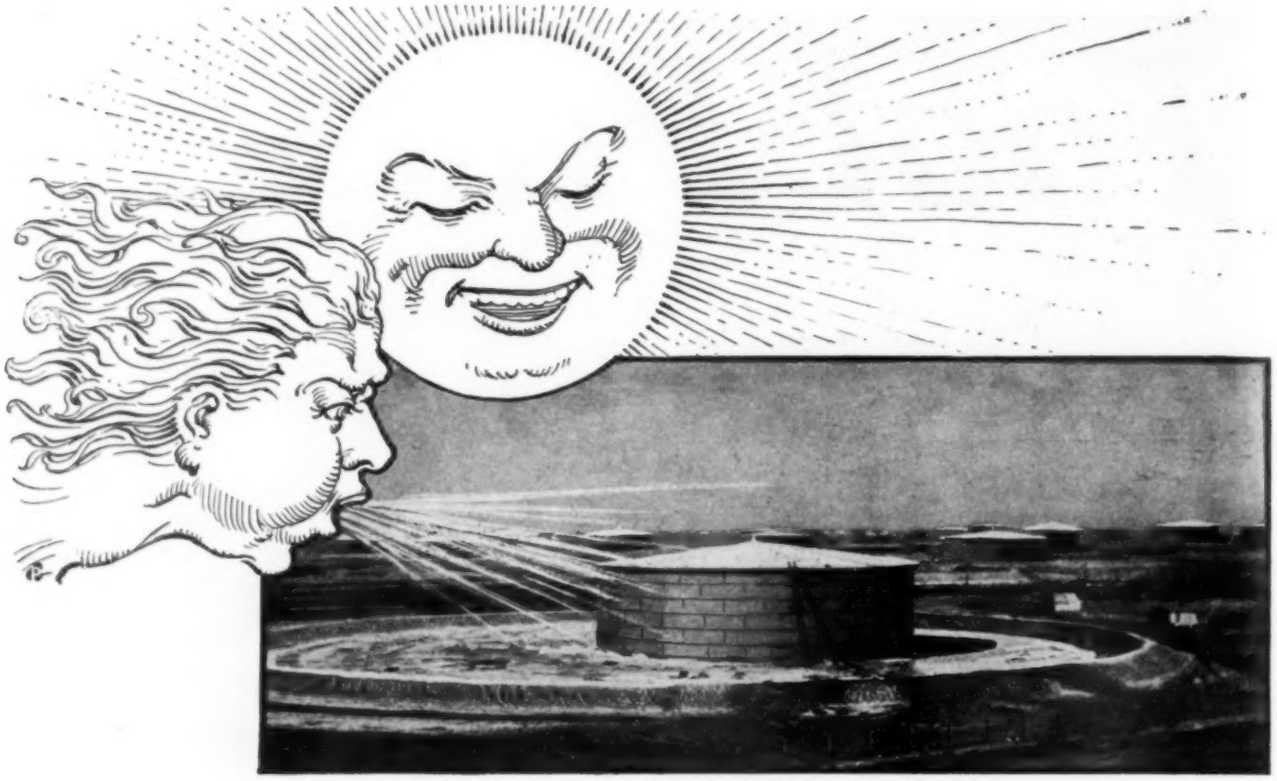


Sun and Wind

—*enemies of your tank storage*

DAY in and day out sun and wind conspire to pump gasoline from uninsulated storage tanks. From 400 to 3,500 barrels are wasted yearly from a single uninsulated "fifty-five."

Johns-Manville Vapor Tight Insulated Tank Tops (patented and patents pending) will exempt your tanks from the greater part of this loss, saving up to $14,000 a year per fifty-five. They insulate against breathing and seal the roof against wind-drift.

Over 30,000,000-barrels storage capacity is now equipped. They pay for themselves. Write for details.

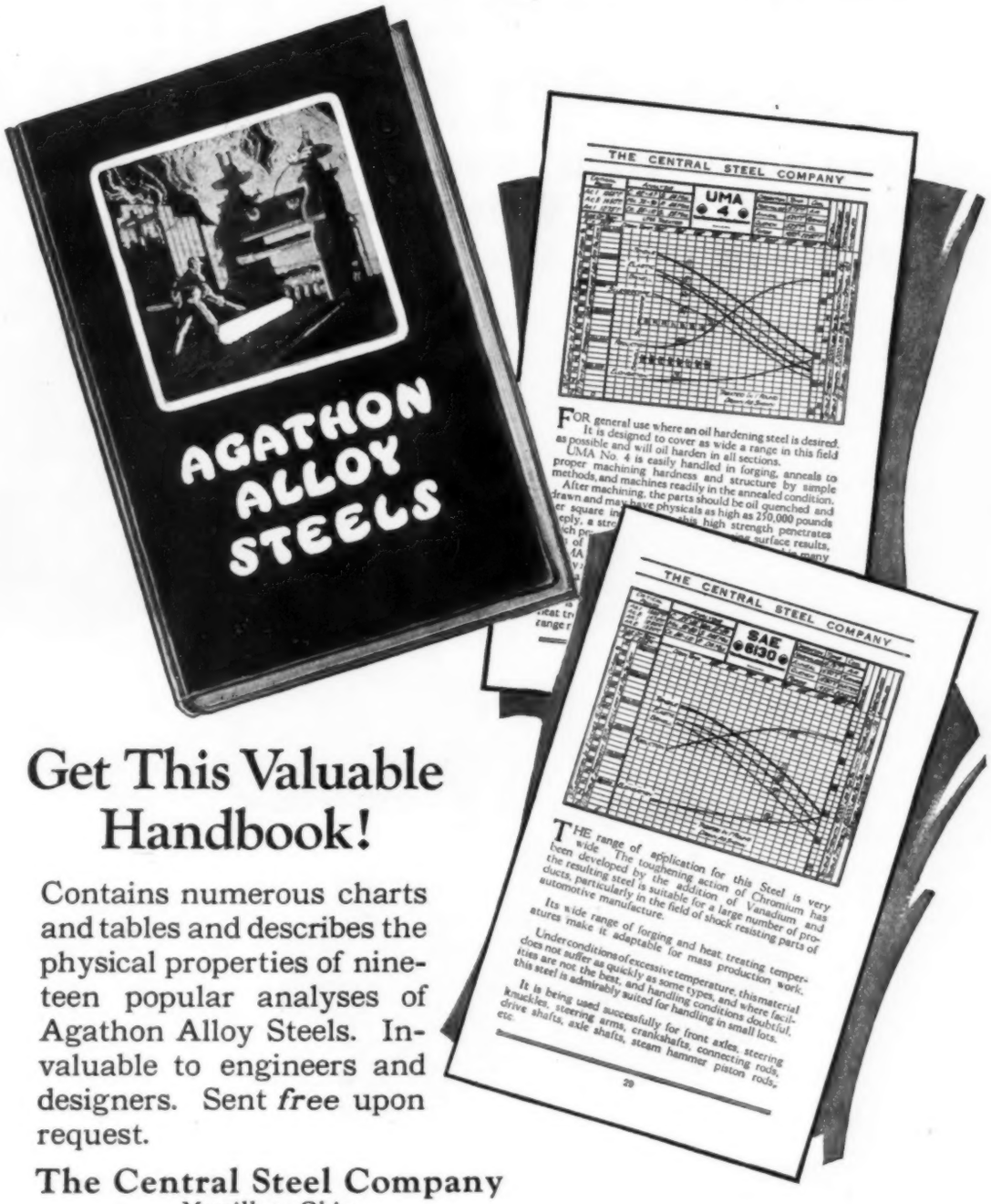
JOHNS-MANVILLE Inc., 292 Madison Avenue at 41st Street, New York City
Branches in 62 Large Cities
For Canada: CANADIAN JOHNS-MANVILLE CO., Ltd., Toronto

Asbestos and its allied products
INSULATION
BRAKE LININGS
ROOFINGS
PACKINGS
CEMENTS
FIRE PREVENTION PRODUCTS

JOHNS-MANVILLE

Oil Industry Department

Say you saw it in The Oil Weekly



Get This Valuable Handbook!

Contains numerous charts and tables and describes the physical properties of nineteen popular analyses of Agathon Alloy Steels. Invaluable to engineers and designers. Sent *free* upon request.

The Central Steel Company
Massillon, Ohio

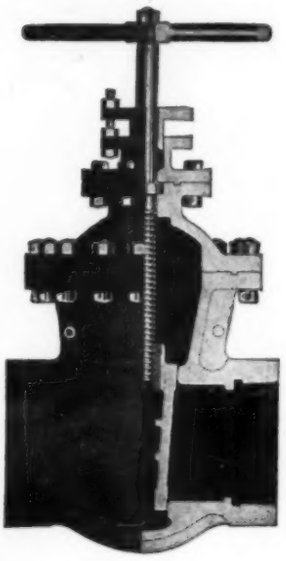
Swetland Bldg., Cleveland
Peoples Gas Bldg., Chicago
University Block, Syracuse
Book Building, Detroit
Aeolian Bldg., New York
Widener Bldg., Philadelphia
303 W. P. Story Bldg., Los Angeles, Calif.

AGATHON ALLOY STEELS

KEROTEST

ANSWERS THE CALL OF THE WILD!

No Matter how "wild" your well may be, KEROTEST Valves will help subdue it!



When you consider the great care taken in manufacturing KEROTEST Valves, you will stop wondering at their strength and efficient functioning under severe stresses of oil field service.

Tough ILMENITE steel is used in the body construction. When completed, all valves are given a 24 hour Kerosene test under high pressure. Before shipment a disinterested inspection agency carefully examines every valve and fitting for any possible weakness or flaw.

You should use KEROTEST Cast Steel Valves—they are safer and better.

Complete information and data are given in the KEROTEST Catalog.

Pittsburgh Reinforced Brazing and Machine Co.

Pittsburgh, Penna.

Carried in stock and sold by

GRINNELL COMPANY OF THE PACIFIC
Los Angeles San Francisco

NORVELL-WILDER HARDWARE COMPANY
Houston Beaumont Shreveport

OIL WELL SUPPLY COMPANY
Oklahoma Kansas Colorado Wyoming

Export Distributors

OIL WELL SUPPLY COMPANY
Pittsburgh New York Tampico London

LISTEN MEN!

This is what you have been waiting for!

Fetty Long Stroke Pump Attachments are now being manufactured out of Cast Chrome Vanadium Steel.

Now in stock and ready for delivery.

Covered by United States and Foreign Patents

R. G. Garretson
771 Raymond Avenue
Long Beach, California.
Tel. 333-433.

R. N. Atmore
404 West First Street
Tulsa, Oklahoma
Tel. 3-3282

FETTY

Pumping Attachment

LONG STROKE

C. C. FETTY & CO., EL DORADO, KANSAS

Say you saw it in The Oil Weekly

SUPREME

definitely proved by the long and satisfactory service rendered

"America's Best since 1862"

THE LUNKENHEIMER CO.
"QUALITY"
LARGEST MANUFACTURERS OF HIGH GRADE ENGINEERING SPECIALTIES IN THE WORLD
NEW YORK CHICAGO CINCINNATI, U.S.A. BOSTON LONDON
EXPORT DEPT. 129-135 LAFAYETTE ST., NEW YORK

FIG. 407

3-34-90

HOUGH

HOUGH, alone, manufactures Steelex and Bronzex Balls and Seats and into them is builded strength, accuracy, performance and a long life. They are packed in a way which distinguishes them from other balls and seats—and they perform in a manner which distinguishes them; perhaps this is why their popularity is not confined to any one oil field—perhaps this is why they lead in sales.

STEELEX is used where excessive sand wears out the ordinary ball and seat—it lasts and performs efficiently longer than you hope for.

BRONZEX is especially built for use where alkali or lodestone prevent a steel ball and seat from operating efficiently. It, too, is a great worker over a long, trouble-free period. All good dealers carry them in stock.

Trade H Mark

THE CHARLES N. HOUGH MFG. CO.

FRANKLIN, PENNSYLVANIA

Products that cut down your underground overhead

SUPREME

definitely proved
by the long and
satisfactory service
rendered

"America's Best since 1862"

THE LUNKENHEIMER CO.
"QUALITY"
LARGEST MANUFACTURERS OF
HIGH GRADE ENGINEERING SPECIALTIES
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NEW YORK CHICAGO CINCINNATI, U.S.A. BOSTON LONDON
EXPORT DEPT. 188-138 LAFAYETTE ST., NEW YORK

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Trade H Mark

THE CHARLES N. HOUGH MFG. CO.

FRANKLIN, PENNSYLVANIA

Products that cut down your underground overhead

SPANG
Weldless Drilling Jars

The following paragraph, which tells what one user thinks of SPANG Weldless Jars, we lifted in its entirety from a letter received recently from a Mid-Continent operator:

> "After our own experience and after hearing the testimonials of others, we feel that they are *the best for the money invested* as well as *the best that money can buy*. We have actually already received more wear out of these jars than an equal amount of money would buy in other jars; at the same time eliminating the hazard which a person *has to buy* in the purchase of welded jars."

Substantially, that is the same chorus sung wherever the SPANG Weldless Drilling Jar is used. Send your order to your own supply dealer. He has SPANG Weldless Jars in stock.

SPANG
Thread Protector

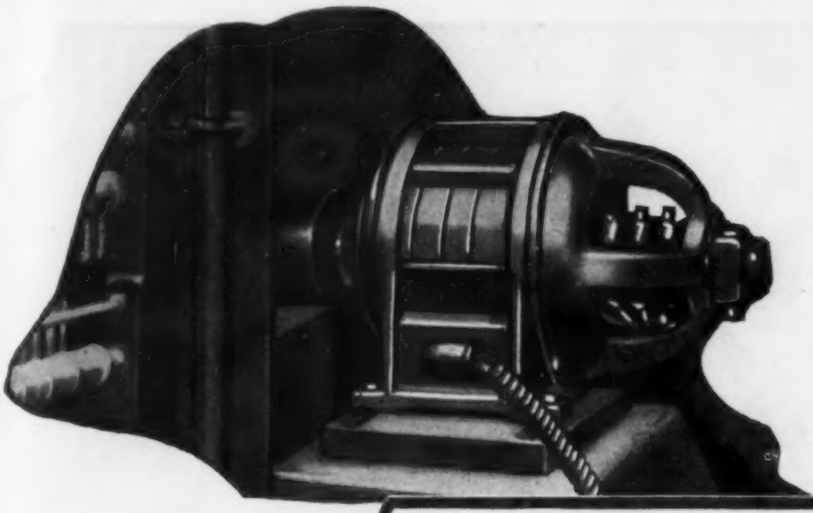
Protect your Tool Joints with SPANG Thread Protectors. *Like all SPANG products they guarantee absolute satisfaction and long, durable service.*

SPANG JARS INSURE

- Excellent Joints.
- Greatly increased footage drilled.
- Elimination of Jar Fishing Jobs.
- Reduction of drilling risk.
- Three to five times as much service as other jars.
- Increased profits.

Spang & Company
Butler, Penna.

Sold by Leading Supply Houses Everywhere



How's This for Service?

The record of this G-E Oil Well Motor, installed in the Goose Creek oil field in 1918, shows continuous service—and it's still going strong.

In this time—no repairs, and the insulation on the windings is in as good condition as the day it came out of the factory.

Oilfield specialists and service at Dallas, Denver, Houston, Kansas City, Oklahoma City, Tulsa, Los Angeles, San Francisco.

7A-69

GENERAL ELECTRIC

GENERAL ELECTRIC COMPANY, SCHENECTADY, N. Y., SALES OFFICES IN ALL LARGE CITIES

Say you saw it in The Oil Weekly

"Our Oldest Bessemers Give us Better than 99% Running Time"

SUCH is the statement of a District Foreman at El Dorado—a man old in the oil industry and gas engine experience.

When the equipment is Bessemer, you are assured 99% + running time from the start for years to come. It is running time that pays profits—that's why Bessemer users are money ahead and continue to standardize on Bessemers.

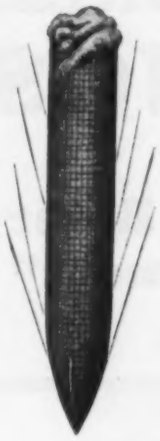
Insure your oil field equipment investment by buying Bessemers. Their extra savings cost you less in the long run.

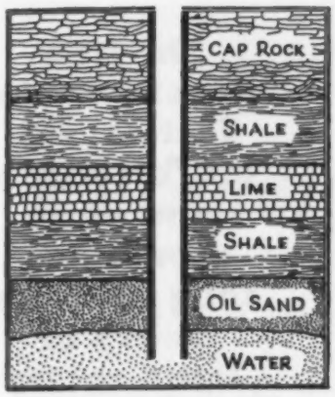
THE BESSEMER GAS ENGINE COMPANY
62 York Street ∴ ∴ Grove City, Pa.

BESSEMER

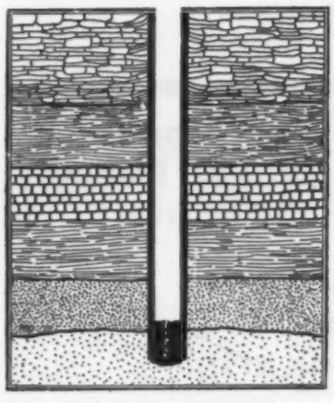
BESSEMER OIL FIELD ENGINES – COMPRESSORS VACUUM PUMPS – ROLLER PUMPING POWERS

Say you saw it in The Oil Weekly





BEFORE PLUGGING



AFTER PLUGGING

FREE
Booklet

Plugging off the water— *quickly!*

WHEN bottom water comes into a well there is no time to waste, no time for slow methods of plugging. The water must be cut off at once. Whether conditions are ordinary or unusual, the Eagle Lead Wool Cartridge plugs off the water quickly, cheaply.

Eagle Lead Wool is stuffed into a special cartridge container developed by Eagle-Picher for shooting the exact amount of lead necessary to the battle ground of water. Under pressure the loose spongy wool becomes a solid plug of pure lead. No cracks or crevices are possible, no corrosion from alkaline waters. As many plugs as necessary may be used until the flow of water is completely stopped. They fit tightly, permanently.

You can buy Eagle Lead Wool from your supply company—or we will see that you are supplied with it. It is furnished in sizes for all casings.

We will gladly send you without obligation the interesting booklet, "Plugging Oil Wells with Lead Wool."

The EAGLE-PICHER LEAD COMPANY · *Chicago · Joplin · Cincinnati*

EAGLE LEAD WOOL and Cartridge Container

Producers of lead and allied products · Eleven Plants · Branches in all principal cities

LeBUS NEW-EUREKA TONGS

G. F. LeBus

"Better Rotary Equipment"

A perfect balance with no interference, easy control, carries all sizes of pipe, casing and tool joints

The New Eureka is the fastest, safest, strongest and most economical tong made for heavy or light rotary work

The Last Word in Grip Efficiency

Models For Every Job

The economical, unbreakable grip, for the New Eureka Tong can be changed quicker than any casing pipe or tool joint tong grip.

CARRIED BY SUPPLY COMPANIES

Manufactured by the

LeBUS ROTARY TOOL WORKS
ELECTRA, TEXAS U.S.A.

LeBUS SLIPSOCKET OVERSHOT

"Campaign Promises"

Over 31 years ago the S. M. Jones Company set out to make the best Sucker Rod and promised itself that it would never permit the quality of the product to fall below that high standard. This wasn't a "Campaign Promise". It has been made good each succeeding year and to-day Jones leads the world in quality and production.

Jones *forged-end* Sucker Rods

are the strongest, most dependable Sucker Rods made—exhaustive, unbiased, tests prove it conclusively.

Read our book—"The Inside Story"—get all the facts—a copy is yours for the asking.

The S. M. JONES Co. Toledo, Ohio.

"The Largest Manufacturers of Sucker Rods in the World"

Mid-Continent Offce: 601 Wright Bldg., Tulsa, Ikla.

Say you saw it in The Oil Weekly

For Complete PIPE LINE UNITS

PARKERSBURG Bolted Steel Tanks with Swing Pipe Mechanisms are economical units for pipe line storage. These units can be supplied completely equipped with vapor-tight fixtures for prevention of losses through evaporation.

Parkersburg Swing Pipe Mechanisms can be applied to any steel tanks — any make or size — to a farm of 55's, a battery of Parkersburg bolted, or to other tanks made from lighter gauge materials.

Swing Joint doesn't depend upon side sheets for rigidity. It is *self-supporting* — rigid — and will not sag, twist, or bind.

Winch is enclosed in a gas-tight Hatch Box, for installation on the tank deck, where it is convenient for the gauger. The cable is not exposed to the weather.

Swing Pipe can be supported in any position without need for ratchets or locking devices — the spooling drum operates through worm and gear.

The Parkersburg line includes tanks and equipment developed to meet the handling and storage requirements of every producing field. Well-stocked Parkersburg warehouses — and Parkersburg Tank-setting Services — are convenient to your operations.

Written inquiries given prompt, careful attention

THE PARKERSBURG RIG & REEL CO.

Main Office and Works
Parkersburg, West Virginia

New York Office
30 Church Street

California Representatives
BUCK & STODDARD 485 California St., San Francisco, Calif.
Box 720, Arcade Station, Los Angeles, Calif.

District Offices and Distributing Warehouses from which Parkersburg Service is Available

ARKANSAS
*El Dorado
Louann
Smackover
McNeil

COLORADO
Denver

KANSAS
Eldorado
Madison

LOUISIANA
*Shreveport
Cotton Valley
West Lake

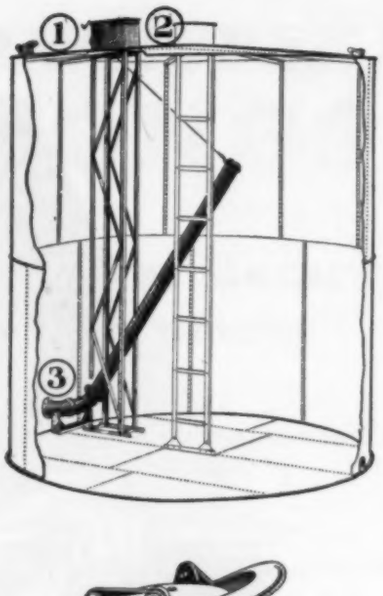
OKLAHOMA
*Tulsa
Bristow
Drumright
Hominy
Holdenville
Okemah
Tonkawa
Wilson
Shidler
Stroud
Wetumka
Wewoka

WYOMING
*Casper

WEST VIRGINIA
Parkersburg
Clarksburg

TEXAS
*Houston
Best
Breckenridge
Corsicana
Luling
Olney
Orange
Panhandle
Ranger
Wichita Falls

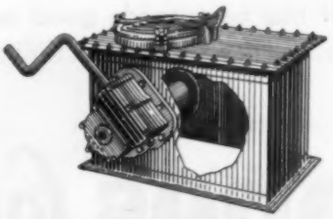
**District Offices*



1 Parkersburg Self-Clamping Gauge Hole Covers remain closed and tight until opened by raising the foot-lever. The joint between the lid and the body of the cover is sealed by a special composition gasket.

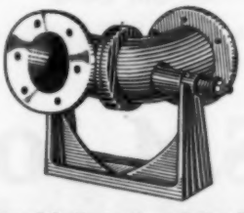
These gauge hole covers are recommended for flow, lease, or stock tanks, and for high or low pressures.

The Self-Clamping feature is a simple toggle-link mechanism. A glance at the illustration will convince you of its simplicity and its merits.



2 Parkersburg Hatch Box, enclosing the spool and cable, is electrically welded at joints and to re-enforcing angles. The cover is provided with a "look" opening and lid. The box is bolted to the tank deck — with gasket between, making a gas-tight joint. Use of stuffing boxes is eliminated.

Hand crank turns spool through a worm and gear — no locking device needed to hold swing pipe in any position. The latticed column support for the hatch box gives added stiffness to the deck, and carries the weight of the swing pipe, hatch box and winch.



3 Both halves of the Parkersburg Swing Joint are held in close contact by a rod and coiled spring; the joint is leakproof. The supporting cradle carries the weight of the Swing Joint — eliminating any tendency for sagging, twisting, or straining on side sheets or bolts.

Say you saw it in The Oil Weekly

You Can't Fool 'Em

Any oil field worker who has had any experience with an IRON KING pulling machine can't see any other. WHY? Because he knows that an IRON KING is easily operated, is strong and durable, quick in action and dependable at all times. He knows they are built right and will do the work at all stages of the game.

Ready for the road

Balances easy

It's No Parlor Ornament

But a good, strong, durable machine that does its work as easily and quickly on the deep ones as it does on those in the shallow pay.

If your oil well supply store will not get you an IRON KING write us direct. Shall we send you a catalog?

Iron King Manufacturing Co.
Bradner — Ohio

He's putting it up

All set

Are You Interested in Reducing Expense of Drilling Oil Wells?

Then why continue with obsolete machinery when everybody who has used

The Standard Collapsible Rotary Drill and Core Barrel

emphatically state that they have lessened their expenses from 25 to 40 per cent and also had the satisfaction of procuring a perfect core every few feet without appreciable loss of time?

These statements can be verified by consulting any of the several parties now using The Standard Collapsible Rotary Drill and Core Barrel.

Write for Literature

Manufactured by

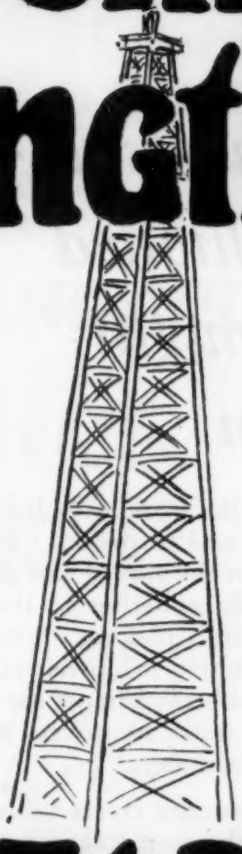
O. M. CARTER

W. T. HILTPOLD, *Sales Agent*

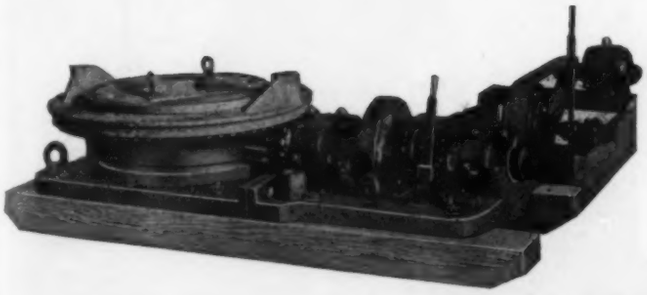
206-7-8 Scanlan Building • HOUSTON, TEXAS

Supreme Strength

To do heavy deep drilling with



LUFKIN TAYLOR ROTARY



—All steel construction.

—Makes and breaks joints without reversing engine.

—Renewable bronze bearings, and Alemite lubrication.

—A real time, labor and money saver.

WRITE FOR DETAILS AND PRICES

LUFKIN FOUNDRY & MACHINE CO.

NEW YORK CITY
3009 Woolworth Bldg.

HOUSTON
806 Carter Bldg.

LUFKIN, TEXAS

LOS ANGELES
506 Com. Exch. Bldg.

TULSA
317 Roberts Bldg.

Say you saw it in The Oil Weekly

BYERS Tubing

GENUINE WROUGHT IRON

honest old-fashioned wrought iron

Stocks carried at:
Mexia, Houston, Shreveport, Corsicana; Taft, Calif., and Los Angeles

known the world over for its resistance to vibration and corrosion. Yes, Byers still puddles iron the way it was done a century ago, faithfully adhering to the highest standard of the iron making craft. From this iron, Byers tubing is lapwelded, threaded and finished with the utmost care, and with the aid of the most improved modern equipment and machinery.

Small wonder Byers tubing stands up! The tough fibrous metal withstands vibration and shock for a period of many years. Corrosion is effectively resisted by the millions of tiny slag filaments incorporated in the metal. The weld, on the average, has been shown to be fully as strong as the other parts of the pipe wall. So its record in the oil fields is one of lasting satisfaction.

A. M. BYERS CO., Pittsburgh, Pa.

Established 1864

HOUSTON TULSA LOS ANGELES

Look for the Name and Year rolled in every length

The Convenient Locations of

There's a REPUBLIC supply store near your well

REPUBLIC SUPPLY STORES

Complete Stock "Always"

WITH FULL STOCKS OF STANDARD

Oil Field Supplies And Complete Field Equipment

Both Rotary and Cable

Insures you Quick Dependable Service at all times

DISTRICT *HEADQUARTERS AND †STORES AT:

*HOUSTON TEXAS
†Corsicana, Texas
†Mildred
†Wortham, Texas

*WICHITA FALLS, TEXAS
†Ranger, Texas
†Olney, Texas
†Breckenridge, Texas
†Electra, Texas
†Burkburnett, Texas
†Duncan, Okla.

*SHREVEPORT, LA.
†El Dorado Ark.
†Smackover, Ark.

*TULSA, OKLA.
†Tonkawa, Okla.
†Yale, Okla.
†Shidler, Okla.
†Beggs, Okla.
†Slick, Okla.
†Bristow, Okla.
†Wewoka, Okla.
†Hominy, Okla.
†Okemah, Okla.
†Wilson, Okla.
†Garber, Okla.

IN STOCK ALWAYS

Republic Iron & Steel Co.'s Tubing, Casing, Drive and Line Pipe.
Standard Seamless Tube Co.'s Seamless Upset Rotary Drill Pipe and Casing.
American Well & Prospecting Co.'s "Gumbo Buster" Rotary Equipment.
Jones' Acme Sucker Rods, and Gas Engines.
American Steel & Wire Co.'s and Broderick & Bascom's Wire Rope.
Hughes Tool Co.'s Hughes Rock Bits, Hughes Disc Bits, and Hughes "Acme" Tool Joints.
Bovaird & Seyfang Oil Field Boilers.
Wall (Walk Laid) Bull Ropes and Manila Cables.
Rhodes Master Packing.

REPUBLIC SUPPLY CO

Say you saw it in The Oil Weekly

INDEX TO ADVERTISERS

A

Acme Fishing Tool Company..... *
Adler, Joseph L. 117
Ajax Iron Works ..... *
Albany Manufacturing Company ..... *
Allen and Courtney..... *
American Cable Company..... *
American Pipe Bending Machine Company.. *
American Steel Wire Company..... *
American Tank Company..... 62
American Telephone & Telegraph Company. *
Axelson Machine Company .....Back cover

B

Baash-Ross Tool Company..... *
Baird Supply Company..... *
Baker Casing Shoe Company.....115
Barber-Greene Company ..... *
Barnickel, Wm. S., Company..... 49
Becker Specialty Company..... *
Bessemer Gas Engine Company..... 12
Black, Sivalls & Bryson, Inc..... 33
Bradford Motor Works..... *
Bradford Rig and Reel Company..... *
Bridgeport Machine Company..... *
Brown Welding & Machine Company..... 85
Brownell Company ..... *
Buckeye Traction Ditcher Company..... *
Burns Tool Company ..... *
Bruce-MacBeth Engine Company..... *
Butler Manufacturing Company..... 59
Byers, A. M., Company..... 20
Byron Jackson Pump Company.....106

C

Cameron Iron Works..... *
Carter, O. M. 10
Central Steel Company..... 5
Clark Bros. Company..... *
Clark Machine Company ..... *
Climax Engineering Company.....115
Columbian Steel Tank Company 73
Columbus Sucker Rod Company, The.....100
Continental Supply Company.....35-42
Cook Paint Company..... 64
Crain Ready-Cut House Company..... 43
Cunningham Company ..... *
Cypress Tank Company.....107

D

D. & B. Pump & Supply Company..... *
Darling Valve Manufacturing Company.... *
De La Vergne Machine Company..... *
Donoghue, David ..... *
Dunn Manufacturing Company..... *

E

Eagle Picher Lead Company..... 13
Eastern Torpedo Company..... *
Elliott Core Drilling Company..... *
Emsco Steel Products Company..... *
Emsco Tool Company ..... *
Everett, R. B., & Company..... *

F

Fawcett, A. W. ..... *
Federal Supply Company..... *
Fetty, C. C., & Company..... 7
Fort Worth Laboratories.....118
Foster & Reiter.....118
Franklin Valveless Engine Company..... *
Frick-Reid Supply Company..... 77

G

Gaso Pump & Burner Mfg. Company..... 3
Gardner Governor Company..... *
General American Tank Car Corporation.... *
General Electric Company..... 11
Gott, H. P., Manufacturing Company..... *
Gould Burner Company.....115
Goulds Manufacturing Company.....100
Graver Corporation ..... *
Great Falls Refining Company..... *
Greenspoon's Sons Iron & Steel Co., Jos... *
Guiberson Corporation 79
Gulf Refining Company..... 21
Gustin-Bacon Manufacturing Company..... *

H

Halliburton Oil Well Cementing Company.. *
Hardway & Cathey.....118
Harrisburg Pipe & Pipe Bending Company .....Inside back cover
Havana Manufacturing Company..... *
Heydrick Mapping Company.....118
Hinderliter Tool Company..... *
Hirsch & Hannay.....118
Hope Engineering & Supply Company.....105
Hopkins, Edwin B. 117
Hotel Lassen ..... *
Hough Manufacturing Co., Charles N..... 9
Houston Pump & Supply Company.....113
Houston Engineers ..... *
Hughes Tool Company.....Front cover
Humble Oil & Refining Company..... 81

I

International Derrick & Equipment Co..... .....Inside front cover
International Supply Company..... *
Iron King Manufacturing Company..... 17

J

Jarecki Manufacturing Company..... *
Jefferson Union Company..... 37
Jensen Bros. Manufacturing Company.....114
Jones Company, The S. M. 15
Johns-Mansville, Inc. 4

K

Kansas City Bolt and Nut Company..... 84
Kansas City Hay Press Company..... *
Keystone Pipe & Supply Company.....117

L

Layne & Bowler..... 53
Le Bus Rotary Tool Works..... 14
Longhart Supply Company ..... *
Lorraine Corporation ..... *
Lucey Manufacturing Corporation..... *
Ludlow Valve Manufacturing Company.... *
Lufkin Foundry & Machine Company..... 19
Lunkenheimer Company 8

M

M. & V. Tank Company..... *
Manzel Bros. ..... *
MacClachie Manufacturing Company..... *
Magnolia Petroleum Company..... *
Maloney Tank Manufacturing Company.... 70
Marion Machine Foundry & Supply Co.... *
McEvoy, J. H., & Company ..... *
McIntosh & Seymour Corporation..... *
McKain, J. B. 118
McVey, J. H. ..... *
Metric Metal Works..... *
Miller Co., Robert J.....106
Moore, Lee C., & Company..... 50

N

Nabors Co., W. C.....117
National Supply Companies.....102
National Transit Pump & Machine Co..... 24
National Turnbuckle Derrick Company..... *
Norris Brothers ..... *
Northrup Equipment Company 116

O

Ohio Steel Foundry Company..... *
Oil Conservation Engineering Company.... 97
Oil Country Specialties Company..... 52
Oil Well Supply Company.....46-47
Okmulgee Boiler & Metal Works..... 38

P

Pacific Oil Tool Company..... *
Palmer Specialty Company..... *
Parkersburg Rig & Reel Company..... 16
Patrick, R. S. 120
Patterson & Stuppi.....118
Pattin Bros. Company ..... *
Peden Iron & Steel Company.....112
Pelican Well Tool & Supply Company.....109
Petroleum Iron Works..... 74
Petroleum Rectifying Company.....109
Pioneer Tank & Boiler Company..... *
Pittsburgh Reinforced Brazing & Machine Company 6
Portable Rotary Rig Company..... *
Powell Company, The Wm. ..... *
Price, W. Armstrong.....118

R

Ratigan, J. P. ..... *
Reading Iron Company ..... *
Reed Roller Bit Company.....56-57
Regan Forge & Engineering Company..... *
Republic Supply Company 21
Ring, Dewitt T. 118
Robertson-McDonald Lumber Company.... *
Robinson, A. ..... *
Robinson, Heath M. 117
Robinson Packer Company..... 72
Rock Island Plow Company.....107

S

Safety Pulling Machine Company..... *
Schley, Jack A. 117
Shaffer, J. E., Company..... *
Shaffer Specialty Company 122
Shaffer Tool Works ..... *
Sheffield Tool & Supply Company..... *
Simler, J. B. ..... *
Sinclair Refining Company 81
Smith & Company, Howard.....114
Smith Corporation, A. O. ..... *
Smith Separator Company..... 55
Sour Lake Machine & Supply Company.... *
South Chester Tube Company..... *
Southern Brass Manufacturing Company...116
Southern Engine & Pump Company..... *
Southwestern Purchaser ..... *
Spang & Company 10
Spellman, John M. ..... *
Spence Machine Company, The.....111
Spengler Core Drilling Company.....112
Standard Engineering Company.....122
Stanley Belting Company..... *
Star Drilling Machine Company..... *
Straus-Bodenheimer Company ..... *
Stone, Jesse R. 118
Sullivan Co., The 118
Sullivan Machinery Company..... *
Superior Tube Company ..... *

T

Texas Oil Pump Company ..... *
The Texas Company ..... *
The Titusville Iron Works..... 36
The Tyler Tube & Pipe Company.....113
Tnemac Paint & Oil Company..... 41
Traction Machine Company ..... *
Trimont Manufacturing Company..... *
Trumble Gas Trap Company.....108
Twin City Company..... *

U

United Iron Works 114
United States Torpedo Company.....108

V

Vacuum Oil Company ..... *
Vinson, Elkins & Wood.....118

W

Ward Chemical Company ..... *
Waukesha Motor Company..... *
Webster, C. W. 118
Wertzberger Derrick Company ..... *
Westcott & Greis..... 66
Westcott Valve Company 39
Western Machinery Company..... 19
Westinghouse Electric & Mfg. Co. ..... *
Wickwire-Spencer Steel Company, Inc. .... *
Williams & Company, J. H. 118
Williamsport Wire Rope Company..... *
Wilson Oil Tools Corporation.....116
Winston, C. A. ..... *
W-K-M Company, Inc. ..... *
Wyatt Metal & Boiler Works..... *

Y

Yale & Towne Company..... *
Youngstown Sheet & Tube Company..... 40

Z

Zero Hour Torpedo Company.....100

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Lakes of Oil at Smackover

The OIL WEEKLY

June 26, 1925 Volume 38, Number 1

TABLE OF CONTENTS

PRICE INCREASE COULD SPELL DISASTER 25
By J. Kent Ridley

TWO REPORTS OFFERED AT DALLAS MEETING 27
By Grady Triplett

MIDWEST BUYS ACREAGE AND PRODUCTION 28

METHOD OF CHECKING VERTICALITY OF WELLS 29
By Victor Svimonoff

AMERADA HAS SIMPLIFIED SYSTEMS FOR LEASE RECORD 31
By W. Lee Sloan

STANDARDIZING ACCIDENT STATISTICS IN FIELD 44
By R. E. Donovan

REDUCTION OF PUMPING POWER COST.. 48

GASOLINE RIG MAKES FUEL ECONOMY ON WILDCAT 51
By Wm. V. Gross

GAS FIELD IN BUFFALO BASIN, WYOMING 58

WHEN YOU SAVE VAPORS THEN PROFITS FALL INTO LINE. 60
By Grady Triplett

PAINT FOR LEASE TANK IS GOOD INVESTMENT 65
By Grady Triplett

MANUFACTURERS HAVE DONE MUCH TO CUT EVAPORATION LOSS. 67

OKLAHOMA WELL PRODUCING BELOW 5,000 FEET 75
By W. Lee Sloan

U. S. DAILY AVERAGE PRODUCTION. 86

NEW EQUIPMENT FOR PRODUCERS. 99

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"I'm a Bad Cat, I Am"

A pipe line construction incident based on facts submitted by John Shaw, gauger, National Transit Company.

"I'm a bad cat, I am," snarls Interstate Joe, as he enters the bunk-house dragging a five foot rattlesnake by the neck.

"Who's your friend?" inquires "Nosey," sticking his head out of an "upper berth."

"Why, good gracious, Mr. McCoy, you don't mean to tell me there are snakes in these woods, do you?" inquires the Timekeeper, edging over towards an open window. "Where did you capture it?"

"Well, it was just like this. Dick and me and the mules were over at Hall's Run clearing off the right-o'-way for the pipe line ditchers. Along towards quitting time, we had to snake a three foot windfall out of the way. 'We'll drag it over towards the run,' says Dick, as he claws the leaves and moss away so he could see to pass the hook of the chain under the log to me.

" 'What's bothering them mules?' I asks Dick, noticing they were acting kind o' queer. 'Don't know, unless it is their conscience,' returns Dick.

"I dug out on my side and reached my hand under the log to grab the hook. 'All right, I got it,' I says, as my fingers closed over what I thought was the hook, and I gives a good tug—then a harder one, and the last time a helluva jerk and out of the hole pops my hand, but I didn't have the hook. Oh, no. I had this here ———————— rattlesnake right by the neck, and the first thing she does is to curl around my arm, so I couldn't let go. The mules started down the run, hell bent; Dick, he grabs a brush hook, and squares off like he was going to cut my arm off, snake and all.

"Boys, I was mad. I drew back with my left hand, and was going to smash that snake one right in the puss, but on second thought I decided not to, so I just tightened up on my grip—tighter and tighter, until she unwinds and hangs down kind o' limp, and then—"

(*It's about time I was turning this into an ad.*)

"Hold on," interrupts "Nosey." "Snakes don't breathe—you can't make me believe you shut the wind off'n that snake."

"That's the great trouble with your kind," snaps back Joe, "you don't know anything so you won't believe anything. Anybody that'll stand up like you did last night and argue with a bunch of experienced pipe line men that the new style TRANSIT TONGS with the RED HEAD are just plain, everyday tongs with a little paint added, is nuts, coo-coo, and non compos mentis, and the very next time you stick your nose in my conversation, I am going to try my new snake treatment on you."

"Gentlemen, gentlemen, remember there are ladies present," warns the foreman, pointing to the evidently busy timekeeper.

NATIONAL TRANSIT
Pump & Machine Company
OIL CITY, PA.
DISTRICT OFFICES: New York, Philadelphia, Pittsburgh, Cleveland, Tulsa, Houston, Denver

Price Increase Could Spell Disaster For Light Oil Producers

Crude and refined markets unchanged; crude stocks drawn upon; gasoline slow

By J. Kent Ridley,
Staff Representative

WHILE the production of light oil is sufficiently behind current refinery requirements that appreciable inroads are being made upon storage, and prospects for immediate large increases in production are not alarming, there is sufficient danger of new areas providing an excess of oil to warrant caution. This was touched upon in this department last week when it was pointed out that an increase in the price of crude at this time is not the most desirable. Officials of large purchasing companies have expressed this word of caution to producers from whom they purchase oil. And at least one big refiner who is in great need of oil at this time, and who ordinarily would increase the price to get the oil, is holding off from that procedure because of the possible bad after effects.

As it is a sufficiently dangerous number of new wells are being started in the Mid-Continent, and a new threat is seen in the possibilities of a hurried drilling campaign around the Crockett County strike in West Texas. However transportation difficulties should hold this area in check should a really big field be developed there.

The gasoline market has been quiet with prices holding firm at the level reached when there was a wave of buying a couple of weeks back. Apparently that wave filled the requirements of the jobbers who have been holding off from all speculative buying this season but were induced to buy at that time because of the upward trend of the market. Failure of the tank wagon to advance in Standard of Indiana territory is responsible for some of this slowness, but it is quite certain that the approach of the Fourth of July will mean that jobbers tanks must be replenished.

In Oklahoma the Prairie Oil and Gas Company is voicing a caution that appears a little more pessimistic than the situation at present warrants, but as is pointed out later in this article, there is danger that the present falling production in that state may be overincreased by pending developments which will materialize late in the season. Naturally the Prairie wants to buy as cheaply as possible, but it also has before it the history of the past years when increased prices brought on a flood of drilling that proved disastrous at a season when the industry was not able to handle the oil. Failure of a price increase at this time, which is expected and hoped for in some quarters, will probably mean a more attractive price later on, while a raise now will mean a serious decline when drilling thus encouraged has fruited.

Since gasoline consumption gains have been running far in excess of early estimates so far this year, the usual heavy demand from domestic jobbers for gasoline during the seven day period preceding Independence Day gives promise of setting new records next week, and Mid-Continent refiners are shaping their affairs to fill the requirements of their customers. This year the national holiday falls on Saturday, thereby giving the majority of car owners two days respite from work to make cross country trips, and with fair treatment by the weather man great inroads will be made in the available supply of jobbers and refiners. The lull in gasoline buying experienced by refiners throughout the past week in the domestic market did not have a weakening effect on prices, and stock accumulations have been set aside as reserve to apply on anticipated pre-holiday orders for immediate shipment.

Export Demand

The demand for the high gravity export grades of gasoline was not in sympathy with the slackened market on U. S. Motor gasoline, and export buyers are unable to fill their entire requirements at the current price of 15½ cents per gallon for 64-66 gravity products. Group Three, North Texas and Shreveport plant owners were being solicited by representatives of exporting concerns over the past week to take on additional orders for this high gravity product, and prevailing market prices were offered for deliveries extending over a period of several weeks, thereby indicating the firmness of the market structure on this product.

Increased refinery runs and heavier movement of Smackover heavy crude to fuel oil consumers is having an adverse effect on the fuel oil market, and prices on this product slumped two and one-half to five cents per barrel over the past week. The consumption of fuel oil in the Southwest is about at its lowest level at this time of the year, while production is almost at its peak, with refining plants crowding their stills with crude to meet gasoline demand. Cotton gin owners will not be in the market to any noticeable extent for a month or more. The gas oil market has been kept firm as result of the use of this product for cracking.

Draw on Texas Storage

The withdrawal of slightly more than one million barrels of crude from steel storage tank farms located in the Mexia-Corsicana section of East Central Texas during the month of May, and 948,750 barrels during April is an outstanding example of the heavy inroads being made in light oil stocks to meet the current demand of Coastal refiners. At the close of May this district was officially credited with having 25,425,100 barrels of crude stocks, as compared to 26,432,000 barrels at the close of April, and 27,380,750 barrels on the last day of March. This crude represents accumulations of flush production from the five fields in the fault region, and also crude moved in via pipe line by Humble from the Ranger field and by Magnolia from Ranger, Healdton and Cushing. The Ranger crude has been stored for several years by Humble and Magnolia as a reserve for the making of bright cylinder stock oils, while Magnolia's Oklahoma crude is stored at this point to afford a quick delivery to its Beaumont refinery when needed. Total steel storage facilities in the Mexia-Corsicana district amount to 38,576,000 barrels with 13,150,900 barrels empty.

The reduction of crude stocks in the Mexia-Corsicana district is being done mostly by Humble, Magnolia, Sinclair, Prairie, Gulf and Pure, and the bulk of this storage oil is moving direct to major refineries on the coast. Humble has purchased approximately 200,000 barrels of Corsicana-Powell field crude and tank farm site at Navarro consisting of four 55,000 barrel tanks from the Continental (Mutual) Oil Company. The oil was sold at the $2.00 posted price, and the erected tanks at $5000 each. Humble will dismantle these tanks, and also recently dismantled three of its pump station 55's at Chambers Creek for re-erection in West Texas and on the coast.

The recent sale of five 55,000 barrel tanks and tank farm site on the J. D. Miles tract at the town of Powell, located northeast of the Corsicana-Powell field, by the U. S. Tex Oil Corporation to the Cotton Belt railroad will

enable the buyer to stock up on Smackover crude at present low prices, and store as fuel for the East Texas division of the railroad. A solid train of 20 cars of Smackover crude arrived at the tank farm last Friday, and will be followed by others until the empty storage is filled. These tanks were originally used to store flush production from the Corsicana-Powell field in 1923.

Big Lake Oil Moves East

High gravity crude from the Big Lake field in West Texas is being delivered via Humble's pipe line to the Gulf Coast and loaded into tankers for the Atlantic Refining Company's plant at Philadelphia in connection with a crude contract made recently in the East by officials of Atlantic and the Reagan County Purchasing Company, which holds life time contracts on a large portion of the crude to be produced in this field. Atlantic is reported to have contracted for two million barrels of this crude, with deliveries to be made within a specified time. Atlantic is also receiving 10,000 barrels daily of East Central Texas high gravity oil from Sinclair in connection with a contract made more than a year ago.

Atlantic is one of the first major refining interests on the East Coast to contract for a large quantity of crude from this new high gravity crude area in the Mid-Continent district, and is paying about $2.70 per barrel for the crude loaded aboard tankers on the Gulf Coast. Big Lake crude at the well commands an average price of $2.00 per barrel, based on Mid-Continent gravity price schedules, and the Reagan County Purchasing Company gets 20 cents per barrel by contract for every barrel gathered and stored in its tank farm at Kempner, located east of the Big Lake field. Humble's West Texas pipe line terminates at the Kempner tank farm, and does not make contact with the field proper. Humble's pipe line tariff from Kempner to Texas City and Baytown, both located on the Coast, amounts to 40 cents per barrel, or the same as that applying from Comyn, located near Ranger field, to the Coast. Allowing for the usual brokerage charge of 10 cents per barrel, the cost of Big Lake crude laid down on board ship aggregates $2.70 per barrel.

The comparatively low pipe line transportation charges on crude moving from Big Lake district to the Coast will materially aid in marketing the future production that may be found in this section of West Texas when other lines are attracted to the district. The new field promised by the discovery of oil in North Central Crockett County several weeks ago, which led up to an unusual amount of lease buying by nearly all prominent Mid-Continent producers, may be the means of attracting new lines to West Texas.

Terming it a "steady but slow" market at present the refiners of Oklahoma are unable to account for the slow sales of their products in the face of news dispatches from the east that consumption is going far ahead of any previous year. The failure of a tankwagon advance in Indiana and Ohio has also proven a disappointment.

Gasoline stocks in all parts of the Mid-Continent are showing a decrease as a result of the early spring demand for gasoline. It is predicted however that these stocks will be shortly replaced on account of the many new possibilities for high gravity crude. The Thomas pool of Kay County will have an abundance of high gravity oil to throw on the market shortly while the new deep sand at Garber will undoubtedly produce an excess of light oil within the next 90 days.

Prairie Apprehensive

A word of warning has been sounded by two officials of the Prairie Oil & Gas Company to the effect that the "brakes" would have to be applied to the new drilling programs if the operators expected that company to be able to take care of their part of the situation. This statement came "out of a clear sky" as all operators in Oklahoma were really expecting the Prairie to post an increase in the price of crude within a short time.

The starting of over a hunderd new wells during the past week is not in line with what the Prairie expects the Oklahoma operators to do but it is expected that this warning will be heeded in the future and that excessive drilling will be limited to only necessary offset wells.

The finding of a new Wilcox sand pool just west of the Cushing pool in Payne County by the Deep Rock Oil & Refining Company is possibly the fore-runner of another Cushing and is expected to produce a large part of the light oil of the state within the next four or five months.

It now seems that oil from the new discoveries of Oklahoma will hit the market at a time when it is least needed. The Garber pool, the Thomas pool and the new discovery mentioned above will be at their peak after the summer demand has subsided. This will mean a large increase in the storage of light oils which will have to be consumed next year.

The Superior Oil Corporation denies that it has sold its 205,000 barrels of storage oils in the Cromwell pool to the Kansas City Refining Company or to any other concern. Officials of the company admit that they have received some attractive offers for this stored oil but deny the acceptance of any of them. It was reported last week that the Superior company had received a nice premium for this oil.

The Pierce Petroleum Company continues to lead the pace of premium payers in Oklahoma and has connected to 1810 barrels per day of the Riverland Oil Company in the new Riverland pool just south of Sand Springs in Tulsa County. Pierce bought the oil at a 25 cent premium. The Prairie Oil & Gas Company is taking the other half of the Riverland production.

California Fuel Weak

The fuel oil market in California is extremely weak. Stocks are piling up with no end in sight, with consumption falling below last year. One authority remarked last week that he could buy 1,000,000 barrels of fuel oil at once at one dollar a barrel. The Standard's posted price is $1.40.

Natural gasoline is slightly weaker, due to the large amount of gas produced at the new Inglewood field. Four new natural gasoline plants are being erected in the field and their production will add to present large state production. The Inglewood gas makes slightly less than a gallon of natural gasoline to 1000 cubic feet.

Light crude oil is as strong as usual, regardless of mounting production. Inglewood production is classed in the light oil column, due to the fact that its gasoline content is close to 20 per cent.

The large movement of gasoline by water to various points is the saving point of the situation. Refineries can keep going and continue to move their products.

National Oil Scouts Association in Convention at Fort Worth

Two Reports Offered at Dallas Meeting

General committee on standardization approves work of the rotary committee

By Grady Triplett
Staff Representative

Dallas Texas.—Accomplishments of the A. P. I. conference on standardization of oil field equipment here last week included adoption of two parts of the work of the committee on rotary drilling tools and the presentation of the report from the committee on standard rigs and derricks.

The parts of the rotary equipment passed on by the general committee were on transmission machinery and the other on miscellaneous rotary rig parts. This committee has worked under the direction of Captain J. F. Lucey, as chairman. Some changes in engineering data will keep this report from being made public for a few days. But the report is to be presented to directors of the American Petroleum Institute between now and the annual meeting in Los Angeles in January. It is possible that final adoption will come at this meeting.

The reoprt of the committee on standard rigs and derricks under the chairmanship of W. W. Fondren of Houston, is ready for publication and distribution within the industry. Whatever changes may arise from this will be brought before the Institute at the January meeting. Its progress there will depend on what happens following publication and distribution.

Derrick Report

The following report was read by Chairman Fondren at the final session of the Dallas conference:

"This committee found it necessary to recommend for adoption six different height derrick bases and top openings to correspond and are as follows, being influenced in reference to the top openings by the fact that the wire line committee was able to show where a saving could be made by using large sheaves, necessitating larger openings:

"1. A 122 foot derrick, with a 24 foot base and a 5 foot, 6 inch top opening;

"2. A 122 foot derrick, with a 26 foot base and a 5 foot 6 inch top opening;

"3. A 114 foot derrick with a 24 foot base and a 5 foot 6 inch top opening;

"4. A 94 foot derrick, with a 22 foot base and a 5 foot 6 inch top opening;

"5. An 82 foot derrick with a 20 foot base and a 5 foot 6 inch top opening;

"6. A 74 foot derrick, with a 20 foot base and a 4 foot 6 inch top opening.

"It was decided that a 9 foot 6 inch distance between the first girt and the derrick floor was best.

"The height of the Sampson post—16 feet for a drilling derrick and 14 feet for pumping derricks.

Distance between center of Sampson post and center of well, 11 feet 6 inches and 12 feet 6 inches.

"Length of walking beam, 24 feet and 26 feet, with widths of 12 inches and 14 inches for either.

"Diameter of bull wheels, 8 feet."

Shaft Length

On the diameter and length of bull wheel shaft, it was found that 13 feet 6 inches was the proper length and 18 inches the proper diameter for the wooden shaft and 16 inches for the steel shaft.

"The depth and style of the tug rim on the bull wheels and the same on the band wheels, your committee was unable to take any definite action on and this matter is deferred and we will be obliged to wait before making any definite recommendations until we hear from the Manila rope committee, which has promised some figures in the near future.

"It was found that 7 feet 6 inches was the proper diameter for the calf wheel. Also that 18 inches would be acceptable for the calf wheel shaft diameter, with a length of 6 feet 3 inches.

"Owing to some experiments being made in wider belts, of lesser ply than has been customarily used, your committee decided on 14, 16 and 18 inches for belt wheel face to accommodate 12 inch, 14 inch and 16 inch belts with a half-inch tolerance.

"Your committee decided on a band wheel diameter of 11 feet.

"It was further agreed that the distance from the floor to the center of the bull wheel shaft be fixed at 4 feet 8 inches and the distance from the floor to the center of the calf wheel shaft be 6 feet and 6 feet 3 inches.

"Further, that the clearance under the band wheels should be 6 inches maximum.

"The above findings were determined only after ascertaining the wishes of the operators in each one of the six districts through a form of questionnaire sent out covering pertinent points, which were later tabulated and averages arrived at and results obtained mailed to each district chairman for further discussion.

"I am sorry to report that it was impossible for most of our district chairmen to be present at this meeting, South Texas being the only district represented by the district chairman in person. Reports, however, from all other districts were made in written form and mailed or presented in person by representatives of the district chairmen, except the eastern division."

Storage Tanks

The committee on the standardization of storage tanks started its work. The part of its report from the subcommittee representing the users of oil storage and production tanks follows:

"The committee representing users of large storage tanks recommends that each district committee shall prepare a recommendation covering maximum and minimum weights and sizes of sheets, rivets, roof supports and forward such recommendations to the national chairman and further recommends that the national chairman, after receiving these reports shall appoint one general committee to be composed of both users and manufacturers of these tanks and shall request this committee to design and recommend a standard tank within the limits stated by the district committee recommendations of sizes ranging from 30,000 barrels to 80,000 barrels, and that after these designs have been received by the national chairman, they be submitted by him to the district committees for their approval.

"In addition to the above, they recommend that the district committees make similar reports covering riveted tanks of less than 30,000 barrels capacity, welded tanks of less than 30,000 barrels capacity and bolted tanks and that the national chairman be requested to handle these reports in the same manner as has been outlined for the large storage tanks. Also it is recommended that the report of the general committee shall be submitted to the fire prevention committee for their criticism, before it is sent to the various district committees."

The following additions were made to specifications on gauges for the threads on tubular goods. These were brought before the body by Major Buckingham of the Pratt & Whitney Company:

"In making the taper thread gauge you have four elements that you are striving to hold: You have the pitched diameter, the lead, the taper, and the angle, or thread form. All our object

is, is to specify a gauge which will keep those errors within a certain amount. The balance, as it is now specified, on smaller sizes, the ten threads, three-quarter inch taper per foot, are equal to one-half a turn error. That might be made assuming that everything except the diameter was perfect, that error might be all in the diameter; or it might be, assuming that everything except the lead was perfect, it might be all in the lead; and the same with the taper, and the results of those errors would be the same in making the gauge.

"The attempt is made to hold all of the elements as near perfect as possible; but sometimes you find everything except some one element is well within the balances and that one element may be slightly over, and a strict interpretation will throw that gauge out. An actual example of that occurred in a 16 inch gauge where the pitch error was seven- tenths of a thousandth, and the specification allowed one-thousandth; the lead error was zero and the specification allowed five-tenths of a thousandth; the angle error was twelve minutes and the specification only allowed ten minutes, but the accumulated error was equal to about only one-sixth of a turn, and the maximum which is allowed, is one-third of a turn, and that gauge as it stands is only using one-half of the total allowance, and yet running two minutes over the specification amount on the angle throws it outside of the specifications. To correct that gauge would probably mean that you have to regrind it and correct that angle, and the chances would be that you would have to throw the other elements towards the maximum error and the result would not be as near perfect as it is now.

"The suggestion is made that the words 'or accumulative error of not more than one-half turn' be added to the first group. That would mean, if one element ran a little over the other elements must be enough inside of the specification to keep the total within the requirements. The actual result would not be a change from what the existing specifications would give.

"On the eighth thread, three-quarter inch taper per foot, you would add the words 'or accumulative error of not more than one-third of a turn', which would mean the same thing for that size.

"Note: The above change affects paragraph 15 (E) of Article 5, Workmanship and Finish, same to be corrected and changed to read as follows in part: 'The errors on new reference gauges for 10 threads, ⅜ taper per foot, shall not exceed the following:

Pitch Diameter .005

Lead .003 in length of gauge

Taper .005 in length of gauge

Half Included Angle .10 minutes.

Or accumulative error of not more than one-half a turn.'

"The errors on new reference gauges for 8 threads ¾" taper per foot, shall not exceed the following:

Pitch Diameter .0010

Lead .0005 in length of gauge

Taper .0010 in length of gauge

Half Included Angle .10 minutes

Or accumulative error of not more than one-third a turn."

Midwest Buys Acreage and Production

Amarillo, Texas.—The bulk of the close in acreage centering around the recently discovered oil producing area in Wheeler County section of the Panhandle district has been acquired by the Midwest Exploration Company, an operating subsidiary of the Midwest Refining Company of Denver, from Jim O. Whittington of Amarillo, discoverer of the field, for a total consideration of $750,000, of which $250,000 is cash and the balance payable from oil production. The deal involves approximately 1375 acres of leases, with one gas well; two completed oil wells doing less than 100 barrels combined flow; an dtwo drilling tests showing oil while in process of completion.

The Midwest Exploration Company is one of the most recent Standard subsidiaries to enter Texas' fields, and was authorized to do business in the state early this year with a capital stock of $100,000. Stanley R. Cahagan is in charge of the operations in Texas, and district offices are maintained at Amarillo and San Angelo. This purchase gives the Midwest its first oil or gas production in Texas, although the company has been actively blocking leases in the Panhandle district and western Texas, including general lease protection around the wildcat oil producer in Crockett county.

Midwest became interested in Wheeler County shortly after beginning operations in Texas, and purchased 80 acres, being the south half of the southeast quarter of section 12, block 27, from Hal Vaughan and W. S. Pendleton for $64,000, representing $200 cash per acre and the balance payable in oil. This lease borders the 80 acres containing the discovery oil well to the north.

Jim Whittington's discovery of oil in Wheeler County followed the completion of a 125 million cubic foot dry gasser at 2152 feet on the Williams-Laycock land, southeast quarter of section 6, block 27. The oil producer was brought in early last February with an initial flow of 1100 barrels of 36.7 gravity oil after drilling sandy-lime formation at 2180-2220 feet. The first oil well is located in the northeast quarter of section 9, or about 1¼ miles north of the big gasser, and nearer the south bank of the North Fork of Red River. The discovery well declined in production rapidly, and a second well completed by Whittington late last month a short distance to the northwest of the discovery flowed 75 barrels initial after a shot in the pay at 2180-2235 feet. Whittington's fourth test, located less than half a mile southwest of the discovery well, is spraying a small quantity of oil from the top of the pay at 2100 feet, with a total depth of 2130 feet, while trying to re-seat a 6⅝-inch casing at 2086 feet. Whittington's G. W. Porter 1, located about 1¾ miles northwest of the established oil producing area, and in the southeast corner of the southwest quarter of section 14, gives promise of an important extension to the field with oil showing from the top of the pay at 2148 feet, while fishing for a broken bit.

A four inch pipe line about nine miles in length was recently completed to connect Whittington's oil producers with a small skimming plant now under construction at the town of Lela, located on the Rock Island railroad. This crude is reported to show a gasoline yield of about 26½ per cent. No announcements have been made by the purchasers of the Whittington leases and production as to what will be done with the future production. The field has a total of 13 tests underway, as is shown by the Panhandle Wildcat report in this issue, and a number of others are planned for the near future, with many offsetting leases owned by Midwest. Tank car shipments to refineries at distant points will probably be the means of marketing the future production of the field, while additional skimming plants may be attracted to nearby railroad points when production is available.

Jim Whittington and others' wildcat on the O. T. Nicholson land, southeast corner section 28, H. & G. N. Ry survey, block 13, and about 15 miles southeast of the oil producing area in Wheeler County, is reported to have logged showings of oil in broken granite formation from 2116 to 2215 feet, but hard granite was encountered at 2280 feet. The crew has drilled about 40 feet into the granite, and in all probability the hole will be given up shortly and try for a well in the upper pay.

C. H. Clark and others of Wichita Falls have completed a 15 barrel pumper in their wildcat on the Coombs-Worley ranch, section 37, block 3, I. & G. N. Ry. survey, Gray County, from sandy-lime at 2841-60 feet, with a total depth of 2932 feet. This is the second oil producer for the county.

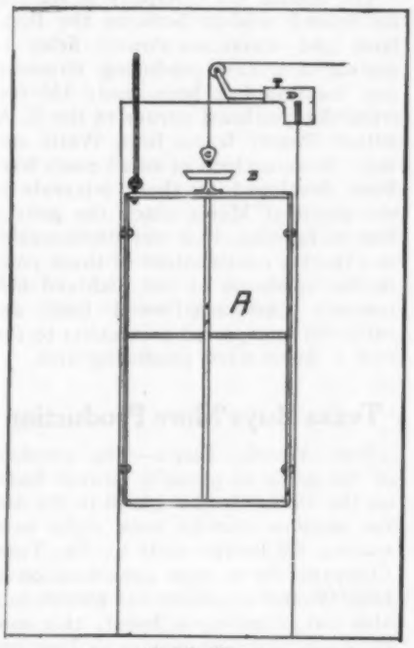
Method of Checking Verticality of Wells

Keeping straight important both from operating and geological standpoints

By Victor Svimonoff
Petroleum Engineer

SPECULATIVE features which still cling to modern geology as applied to the determination of oil bearing lands, proven and wildcat, will undoubtedly be much minimized when the mystery of the underground topography is cleared.

The only non-speculative source of information with regard to the formations in the underground and with



Sketch No. 1.

regard to their relative position is the record of drilling data.

From these data elaborate topographical and geological series of maps are made and very "important" conclusions are reached with regard to the oil potentialities of the territories involved.

It is complacently taken for granted that the wells drilled are drilled in a straight, vertical to practical purposes, direction. And for the problems of topographical and of geological nature dealing with the underground conditions this vertical direction of a well is considered satisfactorily absolute.

The recent research in this branch of oil well drilling in California as well as quite ancient experiments of my colleagues in the oil fields of Baku, Russia, disclose that in the case of even shallow wells the vertical direction of a well is purely a product of imagination and that the hole of a well follows every conceivable form of deviation from the vertical.

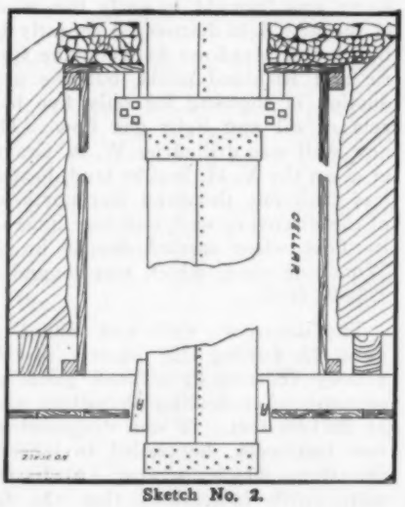
This deviation in some cases is so large that one may actually penetrate into the oil sands of somebody else's property when drilling a well on one's own territory. Although quite negligible in each foot drilled it accumulates considerably as feet run into hundreds and thousands.

In Deep Drilling

And therefore with the advent of deep drilling this factor of imperfect drilling operations becomes serious and menacing, not only from the standpoint of the geologist bent on obtaining a reliable information as to the relative level and topography of a territory but from the standpoint of oil production department of a firm as well.

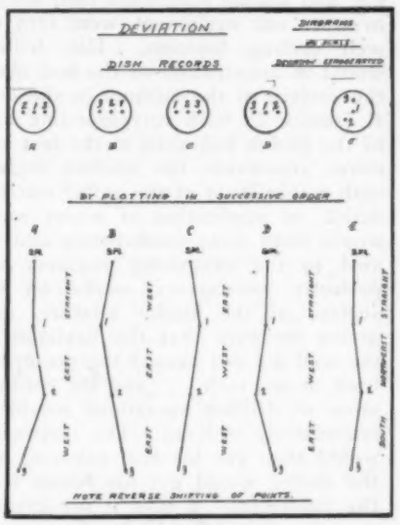
The present day attitude of oil producers with regard to the drilling operations and the verticality of a well may be correctly defined thusly: "I want to get there and how ever I get there I do not care as long as I get there." Of course this is not only selfish but fatal as well and if some day the policy of conservation of natural resources is strictly enforced the measures tending to insure a straight hole will be adhered to faithfully.

Many years ago Russian oil producers realized the need of tools useful in guarding against deviation when drilling a well and their mechanics produced what for that time and conditions seemed to be quite satisfactory. The author is far from recommending the Russian method. For it is obsolete and entirely inadequate for the depths reached in American, and for that matter in modern Russian practice. But the ideas involved in this crude Russian apparatus are such that those with the creative brains in construction of appliances may utilize what is good in them. The author is of the opinion that the fundamental principle of free suspension is the groundwork for all the appliances to be invented.



Sketch No. 2.

The sketches herewith illustrate amply the apparatus used in Baku. Its operation is as follows: when lowered into the well on a line it fits tightly against the casing of corresponding size. The top of its framework structure is horizontal and the dish B in the center of it contains a mixture of soap, rosin and oil impregnated clay. Plumb bob C is suspended on a small pulley placed so as



Sketch No. 3.

to have the plumb bob line passing through the center of the well tangent to its wheel. At different levels of the apparatus A the plumb bob C is each time lowered within a few inches from the dish B, it is held there until the disturbed conditions are brought to a state of rest and then it is quickly dropped on to the surface of the dish. Different dies on the end of the plumb bob make different marks at different levels. When the "deviation-meter" is finally brought to the surface the dish tells the story of the deviation from the vertical. As the depth at which this checking takes place is not considerable by any account—from 150 to 200 feet—it is possible to straighten the hole, or more correctly the casing, by manipulating the wedges L and A, (sketch 2) driven between the floor and the casing.

Start Important

This check is important so far as the farther drilling of the well is con-

cerned. Given a straight start reasonable probabilities are that the well is going to be more vertical than if the drilling commenced with a considerable curvature at the start.

In Baku in the days gone by when private property was held sacred and contractors independently worked for private concerns the procedure of "proverka skvazhiny" — checking of well was a most unpleasant one for the contractors. Unless it could be shown by means of the above apparatus that the deviation of the well in the case at a depth of 200 feet did not to exceed one inch the petroleum engineer in charge of the oil producers' interests would not allow a farther deepening of the well and cases are on record in which a contractor for weeks at a time attempted to straighten the hole and thus conform to the particular clause in the agreement concerning vertical specifications.

I distinctly recall the practice of a disreputable contractor who, having made some money in cesspool cleaning, and having purchased lost, stolen, or worn out equipment, went into oil well drilling business. His drillers would in anticipation of the test mark the surface of the mixture in the dish B (sketch 1) with corresponding dies of the plumb bob used in the test and cover afterwards the marked surface with a thin layer of the softer mixture which on application of warm water would wash away immediately and reveal to the examining engineer the perfectly satisfactory marks on the surface of the harder mixture, thus giving evidence that the deviation in the well did not exceed the prescribed limit of one inch . . . and the continuation of drilling operations would be immediately ordered. The contractor would then get his first payment and the driller would get his bonus from the contractor. I take it for granted that this form of graft has been metamorphosed into some other kind under the state ownership of oil fields in Russia. One cannot change the human nature.

Disadvantages of Crooked Wells

The particular disadvantages of crooked wells which are: wear and breakage of drilling equipment when drilling, loss of energy, wear of lines (Russians bail their wells), damage to casing (lines cutting it) forced the Baku technicians to seek safeguards against deviation. And the cited appliance is the result of their efforts. The same disadvantages only in more exaggerated and I would state multiplied form are facing American oil producers.

Wear and breakage of drill pipe, large number of twist-offs, difficult fishing jobs, damage to casing, broken rods, large friction to overcome in pumping, danger of freezing casings, poor cementing jobs, and last but not least the erroneous conception of the underground conditions, all this should stimulate designers to producing a suitable and efficient verticality-meters.

Of late a method of underground topography is being applied by a well known petroleum engineer of Fullerton, California, Mr. A. Anderson. The method comes under the group of those utilizing the plumb bob principle with an ingeneous application of photography. Some one is working on the same problem involving the use of the plumb bob and of the electrical contact idea. There is no doubt that the problem is a difficult one. And many look with suspicion on the results obtained so far in the underground survey, but to those who have considered the case the additional check on the enormous difficulties of oil well drilling and of oil production seems to be very significant.

It is of value here to mention that the much discussed and studied problem of collapsing pressure of casing could receive a number of additional data and factors if the problem of deviation of a well from the vertical is properly looked into. It will be probably demonstrated which formula on collapsing pressure of casing is more valuable: the one emphasizing the importance of the percentage of "out-of-roundness" or the one accentuating the significance of "yield" factors.

The reading of the dish marks is easily understood from the diagrams attached. Note that the casing position readings should be reversed for plumb bob line is fixed and the casing is stationary whereas the dish moves to and fro in all directions of the compass depending on the value and character of the deviation from the vertical. It is quite evident that the smaller the intervals between the observation levels the more representative is the diagram line of deviation.

Second Well in New Fault Area Field Small Producer

Corsicana, Texas.—A second oil producer was brought in early this week in the new field discovered recently by Barkley & Meadows between the Currie and Richland pools, but the production is showing for only five barrels of oil and light gas flow. The new well was drilled by W. A. Graves et al on the V. H. Stubbs land, located less than one thousand feet northeast of the discovery well, and may increase its flow when carried deeper in the Woodbine sand, which was logged at 2984-91 feet.

The discovery well was completed June 13 flowing 220 barrels of 44.4 gravity (corrected) oil and good gas pressure after drilling Woodbine sand at 2981-90 feet. It was deepened six feet last week, but failed to increase the flow, which is now 130 barrels daily, with indications that the full thickness of the sand pay had been taken when first drilled in.

This new oil field is the sixth for the East Central Texas fault region, but is not regarded as an important strike, as the area is well defined by dry holes, while a row of gas wells mark the west limit of the structure. Sun Oil Company is starting four tests; Barkley-Meadows two; Gulf Production Company one; Atlantic Oil Producing Company one; and Oxford Oil Company two.

The Rio Bravo Oil Company's Right of Way No. 14, located in the lower part of the townsite of Wortham and just outside of the Woodbine sand pay level of the Wortham field, is drilling below 4755 feet in search of a deeper producing horizon.

The Simms Oil Company is starting its second wildcat between the Richland and Corsicana-Powell fields in search of a new producing structure, and location has been made 150 feet from the southeast corner of the E. A. Elliott 56-acre lease, John White survey. Since a chain of small pools have been developed at short intervals to the north of Mexia along the general line of faulting, it is not unreasonable to expect a continuation of these pools to the northeast of the Richland field towards Corsicana-Powell field, and sufficient unexplored area exists to furnish a good sized producing area.

Texas Buys More Production

Fort Worth, Texas.—The purchase of 303 acres of partially proven leases on the Diller Brothers land in the Moran shallow district with eight wells making 440 barrels daily by The Texas Company for a cash consideration of $265,000 and an additional $60,000 payable out of oil runs, boosts this company's total investment in shallow production well above one million dollars within the past four months. The above purchase was made from Leslie Spoonts, McCarter & Choate and the leases are checkerboarded over sections 42, 48 and 49, Lunatic Asylum Lands on the south line of Shackelford County. The wells are producing from the 550-foot sand. This new acquisition places The Texas Company at the head of the production list in the Central West Texas shallow district.

Osages Get Money on July 6

Pawhuska, Okla.—It is being rumored here that the next payment to the Osage tribe would occur on July 6. This will be the second quarterly payment of the current year and will be the largest ever made, according to the belief of members of the tribal council. After the agency had issued an order that the payment would not occur before July 4, all plans for a big celebration on that day were called off.

Amerada Has Simplified System for Lease Record

By W. Lee Sloan
Staff Representative

THERE are two reasons why the Amerada Petroleum Corporation of Tulsa, Okla., has not made a single mistake in the payment of lease rentals during the past five years. It might not appear that two reasons are sufficient to account for such an enviable record as that.

First, the Amerada Petroleum Corporation has a system of paying its lease rentals that is unique. Simple, yet as thorough as any other system now in use by any other company. The other reason is Miss Mabel Summers, in charge of the lease rental department of the company.

The system was devised and installed by Miss Summers a little more than five years ago. And there is not a single page in the six large lease rental books of the company that she is not familiar with. In talking to her it might seem that all the lessees and joint interest holders are personal acquaintances, she is so familiar with them.

How System Is Filed

The system is a loose leaf one, the sheets filed according to the location of the lease. This is done in order to furnish the land department quick information as to how many leases the company has in any certain locality, how much was paid for the leases and the drilling activity, if any.

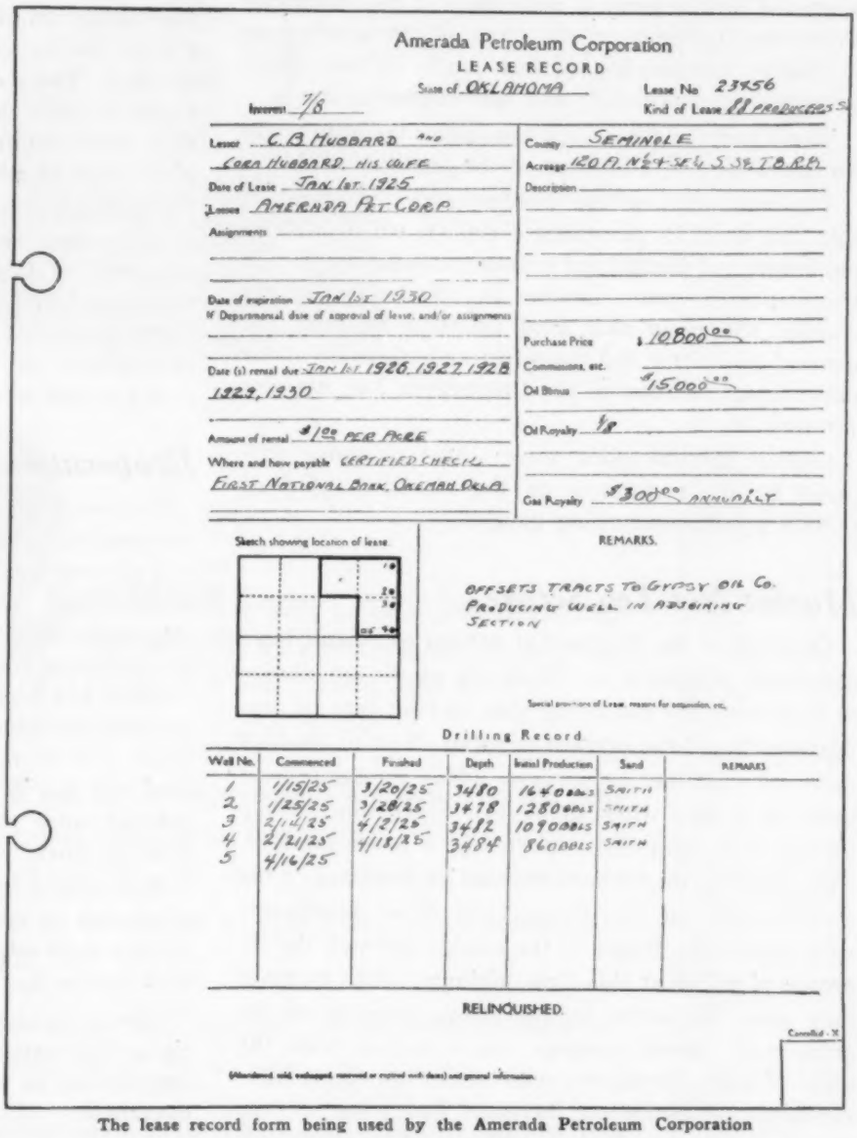
Adequate space is given for all information in regard to a lease. There is a place for the name of the lessor and the depository. In the event the name of the lessor is changed or another depository is named, the original name is red penciled out and the new name written in.

The date of the lease, the time it was approved by the land and legal departments, the term (five or ten years), the description, the time it was recorded and the kind of lease is given a place on the form. Information in regard to the previous holders and from whom the lease was purchased is also shown. In the event the lease is assigned to another company, this information is incorporated on the form.

The Section Plat

One of the unique features of the form is the fact that a section plat is printed on it. The limits of the lease are outlined in red ink on this plat. For example and by reference to the accompanying illustration, the Amerada Petroleum Corporation owns the northeast quarter of the section. This 160-acre tract is outlined on the rental form.

In the "Departmental Rental and Royalty" part of the form is a place for information pertaining to payments of this nature. In the event a well is drilling on the property, it is shown in the first column to the left. In the event this well is a producer, it is then time, of course, to stop paying the rentals on leases which specify that a producing well will hold the lease without further rentals. The amount of the royalty and the date on which it was paid is shown.



Amerada Petroleum Corporation
LEASE RECORD
State of OKLAHOMA
Interest 7/8
Lease No 23456
Kind of Lease ROYALTIES

Lessor C. B. HUBBARD AND LORA HUBBARD HIS WIFE
Date of Lease JAN 1ST 1925
Lessee AMERADA PET CORP
Assignments
Date of expiration JAN 1ST 1930
If Departmental, date of approval of lease, and/or assignments
Date (s) rental due JAN 1ST 1926, 1927, 1928, 1929, 1930
Amount of rental $1.00 PER ACRE
Where and how payable CERTIFIED CHECK FIRST NATIONAL BANK, OKEMAH, OKLA.

County SEMINOLE
Acreage 120 A N½ SE¼ & S½ SE¼ 18 RP
Description
Purchase Price $10800.00
Commissions, etc.
Oil Bonus $15000.00
Oil Royalty 1/8
Gas Royalty $300.00 ANNUALLY

Sketch showing location of lease

REMARKS.
OFFSETS TRACTS TO GYPSY OIL CO. PRODUCING WELL IN ADJOINING SECTION

Drilling Record

Well No.	Commenced	Finished	Depth	Initial Production	Sand	REMARKS
1	1/15/25	3/20/25	3480	1640 BBLS	SMITH	
2	1/25/25	3/28/25	3478	1280 BBLS	SMITH	
3	2/1/25	4/2/25	3482	1090 BBLS	SMITH	
4	2/21/25	4/18/25	3484	860 BBLS	SMITH	
5	4/16/25					

RELINQUISHED

The lease record form being used by the Amerada Petroleum Corporation

Rental Payment Information

In the "Rental Payment" column, to the right of the "Departmental Rental and Royalty", the date the rental was paid, the check number and the amount paid is filled in. By giving the number of the check on the form it is comparatively easy to check back at any time there is a claim that the payment has not been received.

On the right hand side of the form is "Lease Owned by Amerada". For an example of how this part of the form is used let us take Ben Fixico as the allottee. He owns in fee a 40-acre tract in Seminole County, Oklahoma. If the Amerada Company only owns one-half of the working interest it is so specified. The allottee gets one-eighth of the oil as royalty. The Amerada Company pays $10,000 for this acreage as a consideration, no commission, the total to the right would be $10,000. In the event the contract

(Continued on page 78.)

CURRENT EVENTS IN BRIEF

Standardization

Two parts of the work of the committee on the standardization or rotary drilling equipment were approved by the general committee of the American Petroleum Institute at the close of the conference in Dallas Wednesday of last week. These cover transmission machinery and miscellaneous items.

These parts of the rotary equipment are now ready for the Board of Directors of the Institute.

The committee on the standardization of standard rigs and derricks presented a report, which will be published and distributed within the industry. While this report is not complete in all details, it has reached the point that final adoption by both the general committee and the directors is possible at the next annual meeting of the Institute in Los Angeles January 18.

Further specifications were added to those proposed by the committee on the standardization of tubular goods, concerning gauges.

Market Not Too Secure

Officials of the Prairie Oil & Gas Company have cautioned producers in Oklahoma of the possibility of that company not being able to take care of production should the present trend of effort to produce more oil continue to success. This announcement came at a time when many producers were anticipating that company announcing a price increase. This warning might be construed as evidence of the disinclination of the Prairie and other purchasers to endanger the future of the market through the increase of prices at this time, although such increase may seem warranted by the strong position of the crude and refined markets. It is in line with the ideas of many producers who would be affected immediately by such on increase, but who see the dangers of overproduction being induced by attractive prices for crude. The opinion seems to be gaining ground in all quarters, that a uniform price over the whole year is more desirable than high prices at one time and too low ones at others.

Inglewood Boosting California

The daily average production of California last week was increased about 12,500 barrels through the performance of Inglewood, other areas holding their own. Completion of six wells in this field Saturday and Sunday, the field Monday produced about 68,500 barrels. Several other wells are due during the week. However the older wells are declining between 700 and 1,000 barrels daily to offset the increase of the flush wells.

Inglewood is the area upon which the California guessing talent is expending its effort just now, but the fluctuation of production has just about removed the possibility of guessing when the peak will be reached. The week ending June 20 the estimate was 63,000 barrels daily, an average obtained between days when the output went as high as 67,000 barrels. More than 40 wells are drilling in this field.

California oil men are being occasioned some concern through an unexplained decrease in the consumption of fuel oil and consequent mounting of stocks of fuel and heavy crude oil. Already about 35,000 barrels of heavy oil is shut in in the state and probabilities are that more wells will be closed, as it is possible to do this without damage.

Evaporation

The entry of Summer weather which spells large evaporation losses to the oil industry makes the subject of considerable interest to producers everywhere at this time. Authentic figures show that one of the biggest losses of the industry is this annual evaporation which of course is magnified during hot weather.

Much has been accomplished by equipment manufacturers in helping operators not only to check these losses but to make their product of greater value. And the use of this equipment is becoming more general since the advent of gravity buying in the Mid-Continent.

A section in this issue has been given to a thorough discussion of this subject and it will pay operators to give their evaporation problems careful consideration during the next few weeks.

This Evaporation Section through both its editorial and advertising pages will furnish many valuable suggestions as to how this efficiency menace can be overcome.

Oklahoma's Deepest Well

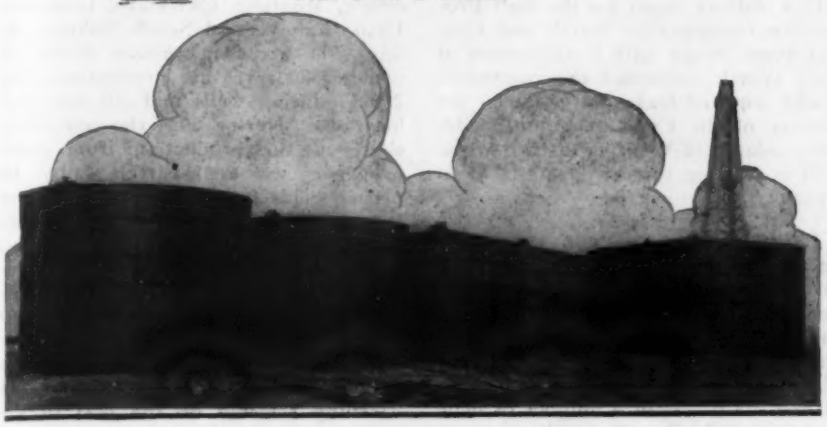
While the amount of oil so far uncovered is of scant importance, the fact that an oil bearing sand has been found at 5145 feet in Noble County is considered the outstanding development of the year for that State. The sand has not yet been identified.

The depth is such that formerly the opinion was that granite would have been reached, destroying all possibility of oil.

The well is that of the K-D Oil Company on the White farm in the southwest corner of the southeast quarter of section 1-22-4 west. The log is part of the article in this issue.

PERFECTION VAPOR PRESSURE TANKS
WOOD, AND BOLTED STEEL TANKS

No. 3 of a Series



A battery of Perfection tanks belonging to the South Vernon Oil Co., Vernon field, Texas.

Question: WHY DO PRODUCERS SPEAK OF PERFECTION TANKS AS BEING PRACTICALLY INDESTRUCTIBLE?

Answer: It's in the construction of the tank and the composition of the metal used in its fabrication. Thoro-metal, an alloy of steel and copper is the metal used which is absolutely non-corrosive from the action of salt water often pumped in the tank with oil.

The tank is made of bolting separate flanged sections together, bolt holes and bolts all on the outside.

This feature allows ease in resetting and accounts for the fact your Perfection tanks are available for use in new fields long after the old ones are forgotten.

Black Sivalls & Bryson
INC.

BARTLESVILLE ~ OKLAHOMA

Branch offices in all principal active fields

Say you saw it in The Oil Weekly

PERSONAL MENTION-MEN YOU KNOW

John Sexton, machine shop foreman and warehouse superintendent of the Phillips Petroleum Company at Shidler, Okla., died there June 15 after a brief illness. He was well known throughout the Mid-Continent field, having at one time been connected with the Wagner Supply Company at Fort Worth.

Frank DeLuce, Mid-Continent representative of the A. M. Byers Company of Pittsburgh, Pa., manufacturers of oil country tubular goods, has opened offices at 220 Mid-Continent Building, in Tulsa.

Bert Broday, manager of the Wichita Falls office of Humble Oil & Refining Company, has included Canada on his vacation itinerary to get relief from hot weather, and will be gone for several weeks.

Clint W. Murchison, president of the Murchison & Fain Oil Company of Wichita Falls, and Truett Cranfill, Dallas oil producer, are taking a vacation with their families in the mountains around Colorado Springs, Colorado. Both have their casting rods along, and can be counted on for a hot line of fish stories when they return.

Humble Resumes Looping Texas Line to the Coast

Houston, Texas.—Humble Pipe Line Company has resumed work on looping its eight-inch trunk line from Comyn station and tank farm in Comanche County towards the coast after halting the project at the beginning of the boom at Wortham field. A loop consisting of about 45 miles of eight-inch pipe is now being strung from Comyn to the next relay station on the line at Pendell. This trunk line has been crowded to capacity since the extension of an eight-inch line from Comyn to the Big Lake district in West Texas, and also transports Humble's production and crude purchases from North and Central West Texas.

Marion Opens Casper Office

Casper, Wyo.—A district office has been established here by the Marion Machine Foundry and Supply Company of Marion, Indiana, and a complete stock of the Marion line will be carried in the Rocky Mountain territory. Robert A. Young has been named district manager with district offices in Casper and offices and warehouse in Salt Creek. May Tank and Supply Company formerly was distributor in this territory for the products of the Marion Machine Foundry and Supply Company.

F. J. Adams, agent for the Gulf Production Company in North and Central West Texas with headquarters at Fort Worth, inspected the company's newly acquired lease protection in the vicinity of the Crockett County wildcat producer in West Texas last week. Gulf is starting three wildcats in West Texas.

J. E. Nolen, assistant purchasing agent, The Texas Company, has returned from a trip through the north and east. Mr. Nolen was a delegate to the convention of the National Association of Purchasing Agents held in Milwaukee. After the convention he visited the plants of a number of manufacturers of oil well supplies.

A. A. Buschow, secretary-treasurer of the Bridgeport Machine Company, has returned to the home office of the company in Wichita, Kansas, after a trip to the West Coast, where he visited with his father and mother, who reside in California.

Paul Arbon, president of Paul Arbon & Co., of Tulsa, plans to leave about July 1 for an extended tour of European countries.

Funeral services for Mrs. Eleanor Clancy, 49 years old, wife of P. J. Clancy, who died suddenly at her home, 209 Robinson Place, Shreveport, Louisiana, Thursday night, June 18, at 10:45 o'clock, were held Saturday morning at 10 o'clock from the St. John's Catholic church with interment in Forest Park. Mrs. Clancy is survived by her husband, two daughters, Mrs. Q. T. Rosenblath and Miss Marie Clancy, and a son, Le Roy Clancy, all of Shreveport; and three brothers and three sisters residing in Pennsylvania, and one grandchild, Q. T. Rosenblath, Jr.

Argo Oil Company Takes Over Many Companies

Denver, Colorado.—The Argo Oil Company, a Delaware corporation, has recently been organized for the purpose of taking over and operating a substantial group of producing properties, of developing a rather unusual list of carefully selected undeveloped properties, and of acquiring new properties, developed and undeveloped, as rapidly as they can be obtained under existing favorable circumstances. It has an authorized capitalization of $20,000,000 divided into 2,000,000 shares of the par value of $10.00 each.

The company holds leases, working interests, or royalties on 27,256 acres, well located on 36 structures in Wyoming, Montana, Oklahoma, Colorado, Utah, Kansas, and South Dakota. It has 9911 acres in proven fields, of which 3876 acres are productive, with 235 producing wells and 202 undrilled locations. During 1924 the company's share of the production from these properties was 2081 barrels daily. In proven fields from which the company is not yet receiving an income on account of lack of marketing facilities, such as uncompleted pipe lines, or because the company's own holdings have not yet been drilled, it has 9049 acres, of which 4090 acres are within the probable limits of production. On geologic structures not yet tested, but carefully selected on the best of geologic advice, the company has approximately 38,684 acres, of which at least 19,290 acres may be productive if the structures are found to be oilbearing.

The company is engaged in acquiring, by the exchange of its own stock therefor, the outstanding stocks of the Western States Oil and Land Company, Marine Oil Company, Wyokans Oil Syndicate, Royalty and Producers Corporation, and The Glenrock Oil Company (Incorporated). Of these stocks 97 per cent of Wyokans, 95 per cent of Marine, 60 per cent of Western States, and 26 per cent of Royalty and Producers have already been exchanged for Argo stock. The basis of exchange for these stocks is 16 shares of Argo for 200 shares of Wyokans, 1 share of Argo for 4 shares of Marine, 1 share of Argo for 40 shares of Western States, 1 share of Argo for 100 shares of Royalty and Producers, and 1 share of Argo for 40 shares of Glenrock.

Directors of the company, with their official positions are as follows: James Owen, chairman, president of Salt Creek Consolidated Oil Company; Max W. Ball, president, president of Western Pipe Line Company; John W. Finch, vice-president, mining geologist and engineer; E. F. Randolph, vice-president and treasurer, secretary-treasurer of Western Pipe Line Company; C. W. Burdick, president of Enalpac Oil and Gas Company and practicing attorney; H. C. Bretschneider, vice-president of the Midwest Refining Company; Clark G. Mitchell, vice-president of Denver National Bank.

Commission Establishes New District Office at Corsicana

Corsicana, Texas.—A district office of the oil and gas division of the Railroad Commission will be established here July 1, with F. H. Pierson, deputy supervisor in charge, as result of the recent decision to split up the Mexia-Corsicana district. Supervisor Laughter will remain at the Mexia office.

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Had Jack and Jill gone out to drill for oil in Oklahoma

they most certainly would have installed the well balanced and powerful "TICO 2" Gas Engine.

The simplicity of construction and design would have appealed to them just as it does to every oil field man today.

We'll be glad to send you the facts.

THE TITUSVILLE IRON WORKS CO.

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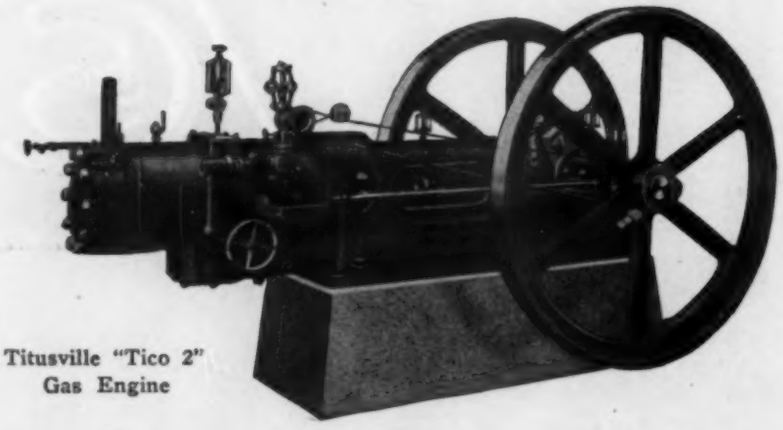

Titusville "Tico 2" Gas Engine

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Jefferson

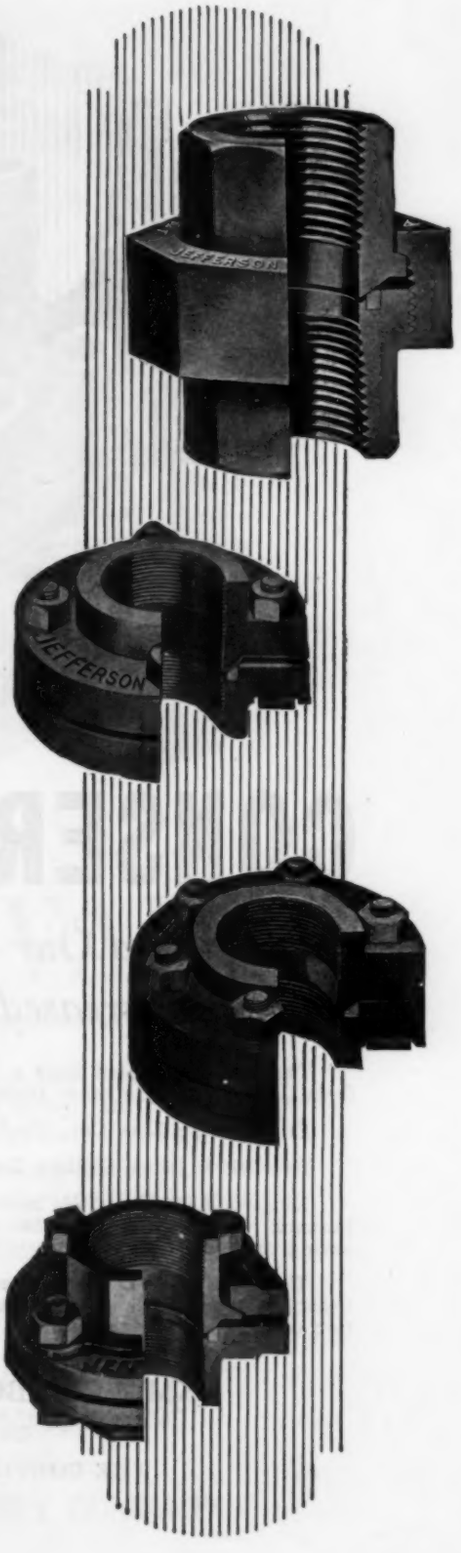
Used Throughout the World

JEFFERSON UNION—STYLE A The JEFFERSON is one of the world's largest selling unions. Made of air-refined malleable iron, with patented Jefferson ground-ball, brass-to-iron joint. Extra play between nut and swivel end makes it easy to apply when pipes are not in line. Recommended for 300 pounds pressure.

TWO-PART FLANGE—STYLE D Unquestionably the handiest two-part flange on the market. Made of air-refined malleable iron, with our patented ground-ball, brass-to-iron joint. Note how all Jefferson seat rings are located away from runway of fitting. Recommended for pressures up to 500 pounds.

TWO-PART FLANGE—STYLE E Very similar in design to Style D Flange, but of extra heavy construction. Tapped, as are all Jefferson fittings, with Briggs' Standard Taper Pipe Threads. Recommended for pressures up to 1,000 pounds.

THREE-PART FLANGE—STYLE B Offers all the usual advantages of JEFFERSON design and materials, and the additional advantage of a loose collar which swivels and brings bolt holes into position without effort. Permits adjusting when pipe is out of alignment. Recommended for 200 pounds pressure.



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Distributors to the Oil Industry

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CONSERVO BURNER

"Increased Our Heating Capacity 25%"—
"Decreased Our Gas Bill 20%"

The above is quoted from a letter from Park & Moran, Contractors, Okmulgee, Okla. Here are some other statements from users:

Empire Pipe Line Co.: 'Find them to be a great gas saving burner."

Babcock & Jones, Drilling Contractors: "They are the best burners we know of."

Kingwood Oil Co.: "We have used a great many different kinds of low pressure burners. We have decided that your burners are the best ones made. * * * great saving on fuel."

The CONSERVO Low Pressure Burner is easily installed, will not get out of order or adjustment, gives proper mixing, complete combustion, and even distribution of heat. Investigate.

OKMULGEE BOILER & WELDING WORKS

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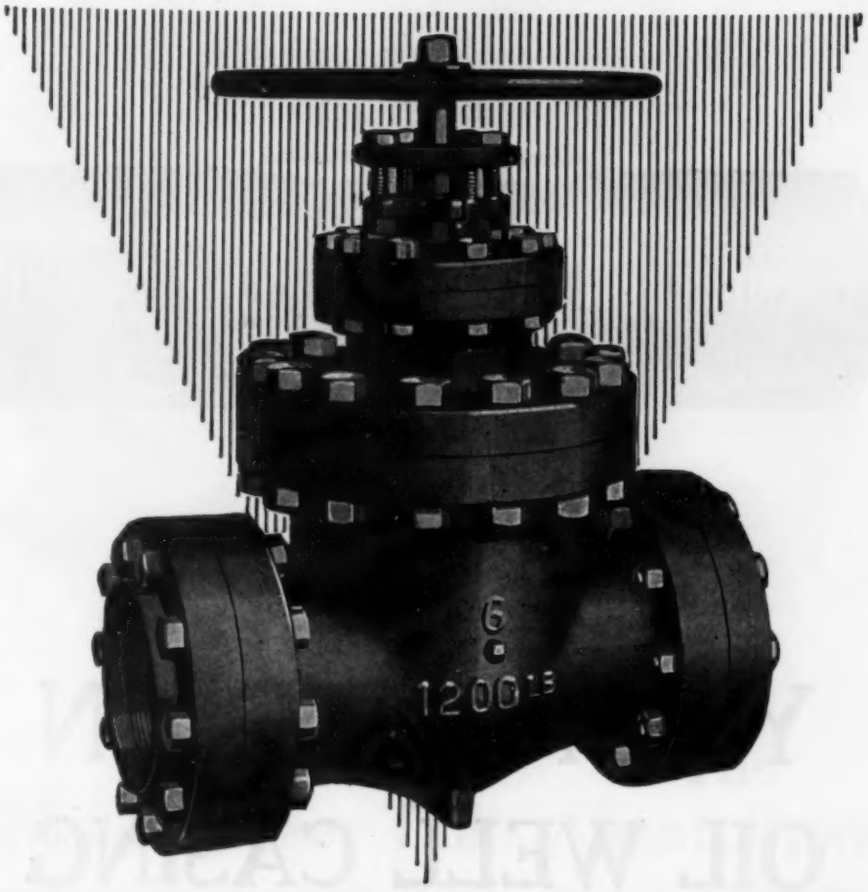

WESTCOTT VALVES

The Westcott Valve Company are *specializing* in high grade valves for the Oil Industry.

They know conditions in this field, and have introduced many improvements and refinements into the design and manufacture of pipe line, refinery, and drilling gate valves.

The Westcott Valve Company now have probably the world's largest output of pipe line valves. They also make a complete line of iron and steel gate valves for refineries, with special mountings for high temperature cracking. A superior line of steel drilling gates is also offered.

We believe the Westcott to be the best designed and constructed valve on the market.

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WESTCOTT VALVE COMPANY, INC.

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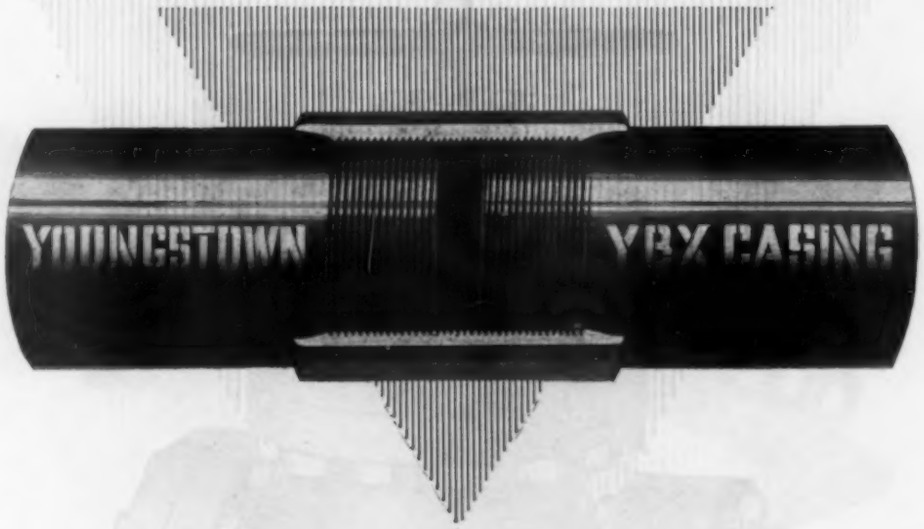

YOUNGSTOWN
OIL WELL CASING

is offered to the trade as a thoroughly Standard product, equal in every respect to the best of such material made.

It is manufactured in a number of styles, each of which is specially designed to meet some particular condition, and each of which may be depended upon to give satisfactory service.

We put into YOUNGSTOWN CASING all that could be learned in a quarter century of experience in the manufacture of Oil Country Tubular materials, with all that is afforded by the most complete and extensive facilities for the production of this class of pipe.

THE YOUNGSTOWN SHEET & TUBE COMPANY

Youngstown, Ohio

Distributors to the Oil Country:

THE CONTINENTAL SUPPLY COMPANY

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CONTINENTAL

The Chief Engineer Talks About *Paint*

Paint Foreman:	Mr.———, how soon will we have the paint for our No. 2 Plant?
Purchasing Agent:	More paint? Say, this paint buying is about the most vexatious single item I have to handle.
Chief Engineer:	Why not use Tnemec Paint handled by Continental Supply Co.? It's the longest wearing metal paint I've ever seen.
Paint Foreman:	Yes, Tnemec Paint is good paint. It sticks to galvanized iron as if it were part of the iron.
Chief Engineer:	That's so too—but I was thinking especially of our 55's. It wears unusually well, even against salt air.
Purchasing Agent:	But what about the price?
Chief Engineer:	Possibly a trifle higher in first cost per gallon, but it costs no more to apply, and it will outwear any other paint we've ever used.
Paint Foreman:	Continental guarantees this paint, and I've found it to be mighty good stuff.
Purchasing Agent:	Well, Continental is a good concern to deal with. Figure out how much of each color you need, and I'll take it up with them.

TNEMEC PAINT & OIL COMPANY
3119 Roanoke Road, Kansas City, Mo.
Oil Country Distributors
THE CONTINENTAL SUPPLY COMPANY

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A Crain Sectional SUPPLY STORE in SOUTH LIBERTY FIELD.

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"OVERNIGHT SERVICE"
Crain Sectional Houses for every industrial purpose are carried in stock at all times ——shipped immediately on receipt of your order.

Save Time—Reduce Erection Costs—Eliminate Salvage Losses—Provide Better Housing at a lower cost per day of service.

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ALYSIS 192

| OF PERSONS | | |

"OILWELL" ESTD. 1862 TRADE MARK (REGISTERED)

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WORLD'S OLDEST AND LARGEST MANUFACTURERS OF OIL FIE IPME

"OILWELL" ESTD. 1862 TRADE MARK (REGISTERED)

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PING POWERS

¶ **"OILWELL"** Unit Pumping Outfits are unexcelled for pumping single wells, of any depth.

Driven through either belt or gear.

The drive can be a gas, gasoline, kerosene, or oil engine — or electric motor.

¶ **"OILWELL"** Steel Band Wheel Powers are made in 16 ft., 18 ft., 20 ft., and 24 ft. sizes.

Shaft rests on thrust bearings which are located in a spherical seat, thus protecting the shaft and parts from any damage due to misalignment. Sight feed lubrication is provided by a reservoir located outside the rim of the wheel, from which point the oil is distributed to all working parts, as shown in the illustration. Force feed lubrication can also be furnished when specified.

¶ Send for Bulletins Nos. 42 and 45 or get copies at any of our 100 Branches.

SUPPLY CO.

L FIE IPMENT

BRANCH STORES IN ALL OIL FIELDS

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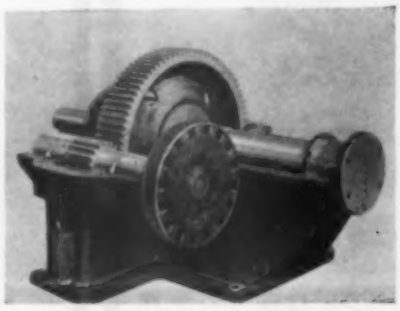
Reduction of Pumping Power Costs

PUMPING service requirements have increased so during the past few years that manufacturers of oil field power equipment have devoted much of their time to working out new devices, especially along the lines of reducing power costs.

Reduction gears have undergone marked developments, with the result that many excellent types are now being marketed. The latest gear to be perfected is known as "Nuttal" oil well reduction gear, manufactured by the R. D. Nuttal Company, Pittsburgh, Pa.



Oil Well Reduction Gear Right Front View

General Description

The Nuttall oil well reduction gear is a complete self-contained unit independent of the motor. It is a single reduction, 5 to 1 ratio totally enclosed in a cast iron case. The case is secured to a common bedplate to which also the motor is fastened, and permits replacement of the motor or reduction gear independently of each other. The motor and gear unit are connected by means of a flexible coupling. The entire unit, consisting of the bedplate, gear unit and motor, is mounted on slide rails of sufficient size to permit an adjustment of eight inches for belt tension. The bedplate area or floor space required is 66 inches long by 48 inches wide. The weight complete minus the motor is 3250 pounds.

The design permits the use of standard oil well pumping motor as manufactured by the Westinghouse Company and the General Electric and can be interchanged from a belt drive installation to a direct connected gear drive. The flexible coupling makes it necessary to dowell the motor to the badplate, thus making it possible to change the motor quickly or frequently without encountering the usual difficulties in obtaining extreme accuracy in alignment. The gear case totally encloses all bearings and moving parts in the reduction, thus making it dust proof with ample capacity for lubrication.

This design has the advantage of maintaining alignment at all times, no matter how frequently the unit may be moved from one place to another. Alignment is not subject to adjustment by the attendant.

Gears

A steel forging integral with the shaft comprises the pinion. It is heat treated, and has 17 three and one-half diametral pitch teeth cut by the hobbing process.

Teeth are of the spur type, 20 degrees involute.

The gear is a steel forging, has 84 hobbed teeth and is heat treated.

An extra heavy gear rim produces a nominal flywheel effect without sacrificing the quick acceleration and reversing features which are so desirable.

Coupling

This coupling is of a design which while being very efficient for absorbing shocks and taking care of misalignment, is particularly adapted to this class of service.

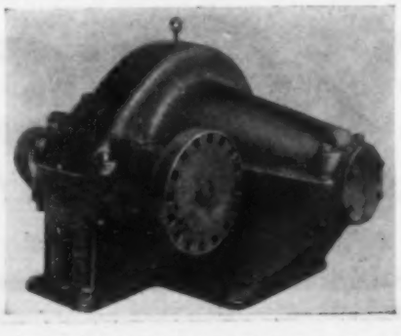
Briefly described, the coupling consists of two steel flanges having slots cut in their respective peripheries. Leather pins rectangular in shape are inserted in these slots and it is through these that the motor transmits its power. Life of these pins due to the large number should be almost indefinite and where renewals are necessary, new pins can readily be made from discarded belting, which is usually available in the field.

The assembly is enclosed with pressed steel covers, which act as a protection and a retained for the pins.

A tapered fit which permits of a quick and easy means of removing for the changing of bearings, secures the driven flange on the pinion.

Gear Lubrication

The bottom of the case is utilized as an oil reservoir for the gears. The teeth on the main gear pick up the oil, any excses being squeezed out and thrown around the case. A portion of this oil is caught in channels which feed it to the four bearings, thus forming a circulation of oil through the bearings as well as over the gear teeth. The bottom of the oil reservoir is divided in such a way as to maintain the proper oil level for the gears at all times.



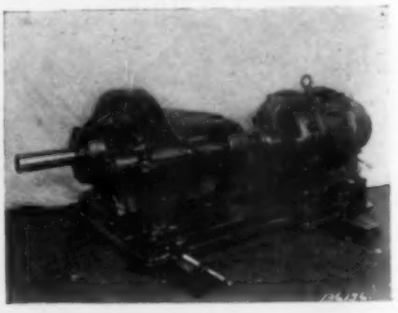
Oil Well Reduction Gear Right Front View

An indicator is provided for the guidance of the operator in keeping the proper oil level. Also a drain is conveniently located to permit old oil to be drained out. New oil may be added at any time through an opening at the top of the case.

Bearings

The pinion shaft is mounted on ring oiling type bearings, the advantages of which is obvious as both bearings have their individual reservoir. These reservoirs are receiving a continuous supply of oil from the splash circulation, the excess flowing back into the main reservoir.

Hyatt Roller Bearings on the main shaft eliminate the danger of the bearings "seizing" under high pressure before the rings can start a flow of oil through the grooves. These bearings are especially proof against such trouble and as long as the stress is within the limits of their capacity there will be no observable static friction and no possibility of "seizing." The large bearing which takes the load off the pulley has a continuous load capacity of over 10,000 pounds.



Nuttall Reduction Gear as it appears connected to the motor, ready for work

Distance between the bearings on the main shaft is extended as far as possible. This arrangement reduces the bearing stresses set up by the overhung pulley, the greatest being on the bearing next to the pulley, while the tail performs merely a steadying action.

Axle steel in the shaft prevents flexure at any possible belt tension.

CUT OIL

A true Emulsion, which stood in our laboratory 4 months without changing.

PIPE LINE OIL

Completely separated from the water a few moments after mixing in some TRET-O-LITE.

Could anything be simpler? Allow us to have our nearest field expert call.

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ST. LOUIS, MO.

Offices and Plant: Webster Groves, St. Louis Co., Mo.

Tret-O-lite

Reg. U. S. Pat. Off.

35,000 Barrels a Day!

This Moore Driller on Murphy No. 4 at Smackover, brought in 35,000 barrels at 2,400 feet.

Over 300 Moore Derricks Mirrored in a Flood of Oil

AT Smackover, Arkansas, in the most sensational of recent oil strikes, the use of Moore derrick has again been attended with spectacular success. Already an army of over 300 Moore drillers have invaded this field, playing a leading role in the production of over 300,000 barrels per day. With such tremendous values at stake, oil operators immediately and without hesitation, called insistently for Moore derricks, and more of them. No derrick they might have used, could have offered so good an insurance of speed with safety. And they were not disappointed. Repeatedly, the enormous pressure of the flood of oil, produced "cratering" or caving in of the earth surface, reducing many derricks to a tangled heap of wreckage. In several such instances, where the earth surface caved in, the Moore derricks, though listing perilously, were successfully salvaged.

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MOORE TUBULAR STEEL DERRICKS

Gasoline Rig Makes Fuel Economy on Wildcat

By Wm. V. Gross
Staff Representative

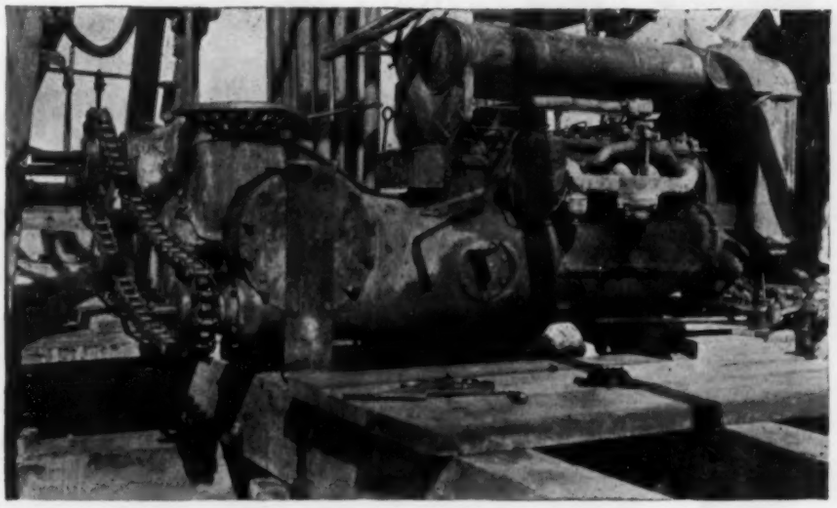
GEORGE CROSSLAND is drilling below 1400 feet on a wildcat well in Matagorda County, Texas, with a fuel cost of less than $6 per day.

The drilling is being done with a rig that was bought second-hand more than four years ago, but today functions with less vibration and mishap than the ordinary used drilling rig, regardless of the fact that it has a number of completed holes to its credit. This condition exists because Mr. Crossland has exercised unusual ingenuity in placing each piece of machinery in a role where it will come nearest realizing 100 per cent efficiency and in selecting a type of motive power suitable to the locality.

In the first place, the natural isolation of the location rendered the use of steam as a motive power prohibitive because of the uncertainty of fuel oil deliveries and the exhorbitant expenses attached to those deliveries when they could be made. Because gasoline could be delivered cheaper and in quantities that would insure longer running periods, gasoline engines were chosen to furnish power for the operation.

Three gasoline engines are used in connection with the rig. One is a 40-60 horsepower Climax engine, weighing about 1250 pounds, used to pull everything on the rig connected with the draw works line shaft. A second engine, the four-cylinder, four-cycle motor of the Fordson tractor, operates the standard 4½ by 10 Gardner slush pump. The third, a stock engine taken from a five-ton White truck, serves to pump water from a creek located about a quarter of a mile from the wildcat.

In order to place each motor where it would function most effectively, the White engine was removed from the truck chasis and replaced with the heavier Climax, which was cradled above the chasis side members instead of being suspended from them as was the case with the original engine. This was done by the use of two cross members (shown in the accompanying photograph), which were forged by a nearby machinist. Likewise the transmission, drive shaft and complete differential and housing of the White truck were shifted from their previous positions and supported above the chasis by means of specially forged strips of iron, thus making all working parts of the assembly accessible to inspection and repair. Drive sprockets at either end of the differential axle, formerly used to pull the truck, were removed and substituted for by heavier 24-tooth sprockets which were in turn connected with two larger sprockets on the draw works line shaft by means of a case hardened rotary drilling chain.



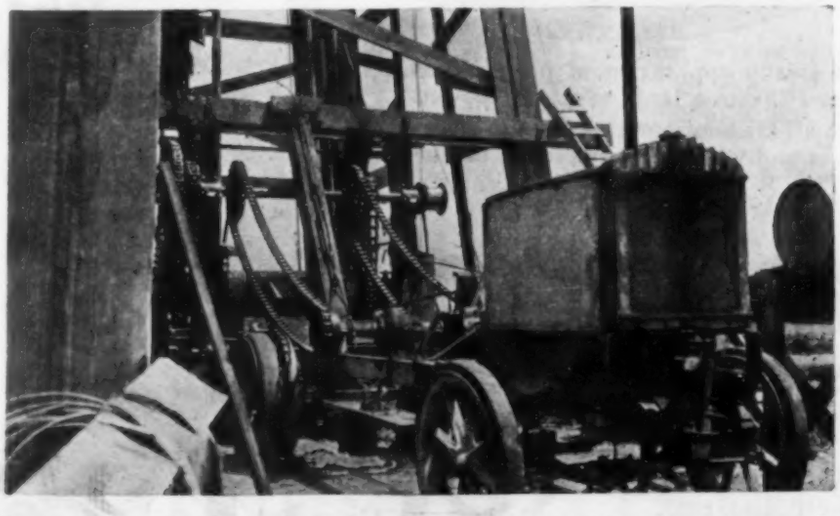
Fordson tracor connected with 4½ x 10 Gardner slush pump. After the wheels and worm of the tractor were removed, the latter was replaced with a Fordson axle, which serves as a drive shaft.

After the installation of working parts on the chasis it was backed up against that side of the derrick supporting the draw works and anchored at the rear end only, as the swinging the front end would do, under load, was needed for flexibility Anchoring the rear end of the chasis frame to the derrick sill directly beneath the hoisting drum and blocking the rear wheels of the truck to prevent any additional forward or backward play other than that afforded by the springs of the truck, the chasis was further sturdied by running a trunbuckle-tightened cable from its end to the upper horizontal member of the draw works frame.

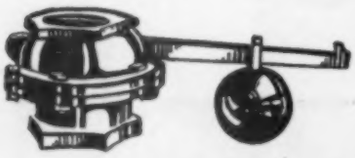
Through the above installation a wide range of speeds, afforded by the four speeds of the White truck transmission worked in conjunction with the two speeds provided on the rotary draw works, was obtained. This made it possible for the man at the brake to command almost any speed desired. At the same time, the variety of gearing made it possible to run the motor at a uniform rate of about 800 revolutions per minute, thus giving the operator the additional advantage of maintaining a fixed horsepower for drilling or lifting, regardless of the revolutions per minute, few or many, made by the drill stem or hoisting drum. (Any operator who has had to contend with a cranky engine and jerky clutch while on a fishing job that required a slow, steady pull that would allow a fellow to "feel where he is at" can appreciate the value of the above arrangement on the Crossland rig.)

Another feature of the rig is the way in which Mr. Crossland made use of a

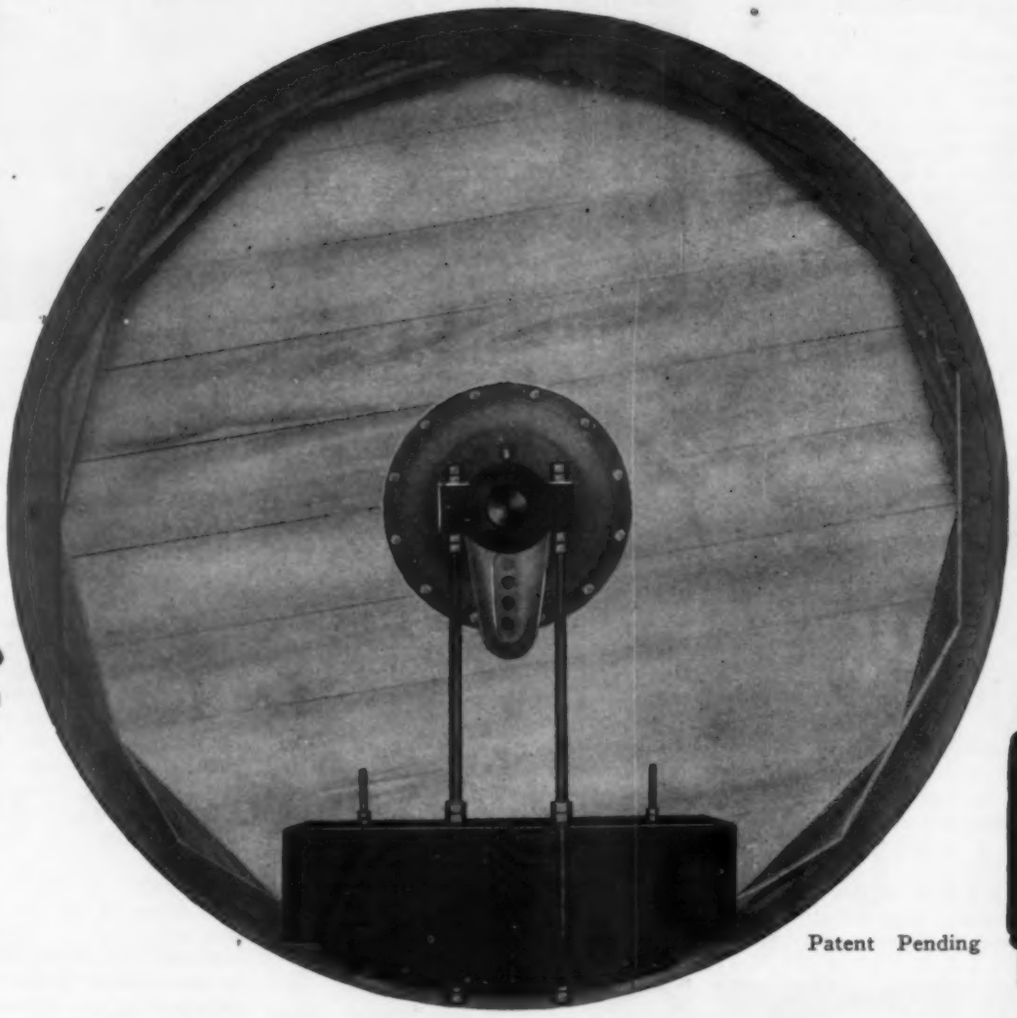
(Continued on page 54.)

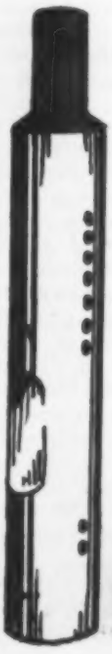


Climax engine mounted above chasis of 5-ton White truck and connecting with stock transmission of truck, giving the operator the double advantage of greater motive power and four additional gear ratios. This arrangement makes it possible to run the engine at a uniform rate of speed, regardless of the revolutions per minute of the drill stem or hoisting drum.



Effective Counterbalancing





Patent Pending

Insures an even steady application of power, thus eliminating broken rods and belt trouble. Effects a large saving of power.

It is applicable to all kinds of power. Also, to either wood or steel bandwheels of any diameter and with any diameter of bandwheel shaft.

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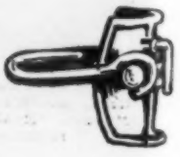
Coffeyville, Kansas



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Setting Tool for all types of Ratchet Packers

THE LAYNE

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Keystone Wire Wrapped Screen

Carried in Stock, for Your Convenience, by Supply Stores

Outside view

Swivel

In Liberty Oil Field, by

Rex Supply Co.
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In Orange Field, by

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In Hull Oil Field, by

Rex Supply Co.

In Mirando (Texas) Oil Field, by

Mirando Lumber Co.

In Sour Lake, Saratoga, Batson Fields, by

Rex Supply Co.
Sour Lake Machine & Supply Company
Saratoga Supply Co.

In Vinton, (La.) Oil Field,

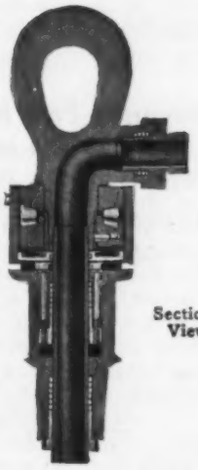
Ged Iron Works

In Eldorado (Ark.) and Surrounding Fields, by

Continental Supply Co.
Republic Supply Co.

Special Heavy Back Pressure Valve

Cone Shaped Screw Wash Ring



Sectional View

Lead and Canvas "Double Seal" Ratchet Packer

Lead Cone and Canvas Ratchet Packer

There's a Layne product for every use below the casing.

Let us send literature

Layne & Bowler Co.

Houston, Texas

Gasoline Rig Makes Fuel Economy on Wildcat

(Continued from page 51.)

Fordson tractor to run the 4½x10 Gardner slush pump. After the tractor had served its purpose in moving material to the location its wheels were removed and the body cradled parallel to the pump on a couple of sills extended from underneath the derrick floor. The rear end, which was subjected to the most tension, was made rigid by two braces forged from strips of flat iron and bolted to sides of the transmission housing and to the sills.

Then the worm was removed from the transmission, and in its place inserted a shortened Fordson axle, the small diameter of which allowed it free play to turn over without moving the worm wheel or effecting the differential spider, pinion or any loose part within the housing. In order to insert the axle in the place formerly occupied by the worm, it was necessary to ream an opening in the housing directly behind the worm thrust bearing through which the end of the axle might protrude. The worm thrust bearing was replaced with a special bearing made to fit the axle. A 10-tooth sprocket was keyed to the end of the axle projecting from the housing and connected with a 15-tooth sprockett on the pump drive shaft by means of a regular 1030 chain, allowing the advantage of slight gearing besides that of the transmission itself to the Fordson motor when pulling the pump. Gas and spark controls on the tractor were left in their original positions. Two circular plates, acting as flanges, were fashioned in a machine shop to cover those openings in the transmission housing sides left by the removal of the tractor's wheels.

When the wildcat down in Matagorda is completed and Mr. Crossland decides to move to another location, he says it will be necessary only to replace the heavy sprockets on the truck axles with regular equipment sprockets and connect them with the rear wheels of the truck. The Climax engine, with the White differential, transmission and drive shaft will serve to pull the chasis without a change in their installation. The wheels and worm of the tractor may be put back on the Fordson and that machine be made to play the part in life for which it was intended.

Incidentally, there is another reason for the long life and good service the rig is giving Mr. Crossland. On the draw works and on the derrick floor, every moving part of the drilling equipment has been bushed with bronze, tested for as perfect a bearing as is practicable, and fitted with drip oilers.

Wild New Mexico Gasser Brought Under Control

Santa Fe, New Mexico.—The gas flow of the Arkansas Fuel Oil Company's wildcat well on the C. F. Kruse ranch, SE-NE section 11-T19N-R21E, Mora County, gauged 26,000,000 cubic feet when placed under control last week after flowing wild at 1425 feet. This well is a rank wildcat drilled on the Wagon Mound Structure, about eight miles southeast of the town of Wagon Mound, and was difficult to handle, owing to the poisonous nature of the production. The gas pay at 1140-63 feet and 1420-25 feet is being lubricated to continue drilling. The contract calls for a 4000-foot test.

Building Gas Line From Laredo to San Antonio

Laredo, Texas.—Construction work on a 12-inch line from the Bruni-Cole gas field to a junction with the Southern Natural Gas Company's line to San Antonio, 73 miles distant, will begin at once, according to terms of a contract effected last week between the Mission Oil Company of Kansas City and O. W. Killam of Laredo.

In addition to the above line, the contract also calls for the construction of an 8-inch lateral pipe line in the Carolina Texas gas district, where Mr. Killam has considerable acreage.

Right-of-way for the latter line has been secured and engineers are now completing the survey, with the intention of finishing the line by December 1.

Production of gas in the Carolina-Texas district exceeds 1,000,000,000 cubic feet daily.

Will Drill Between Lockhart and Luling

Lockhart, Texas.—That an oil producing structure in the form of a half-moon connects Lockhart, Lytton Springs and Luling fields will probably be proven within the next few months it is the belief of operators here. Derricks are dotting the section, which for so many years has been considered by geologists as a probable oil producing district.

At least 12 derricks will be up between Lockhart and Lytton Springs during the next week and drilling operations under way. Several tests are preparing to spud in between Lockhart and Lytton Springs derricks.

If oil is discovered on only one of the tracts in the wildcat district an extensive drilling campaign will follow, oil company officials state.

Pay formation in the upper section of the Lockhart field near Bastrop county is found in a shallow sand around 900 feet. In the opposite end of the field the Gulf Production Company completed its A. T. Cardwell for fair production at 900 feet. The Taylor marl is found at 1200 to 1500, the Serpentine at 1400 to 1600, the Eagleford around 1900. No well has been drilled to the Edwards in the Lockhart field. Fair showings of oil have been found all over the section between the Lockhart and Luling fields, but no heavy producing wells have been drilled.

That the Serpentine and Taylor marl are heavy producing sands in this district has been shown by several large wells. During the last week No. 13 Brewer of the Gulf was completed for initial production of 5500 barrels at 1300 to 1400 feet. No. 14 was also completed last week as a fairly large well.

Humphreys Corporation Headquarters to Houston

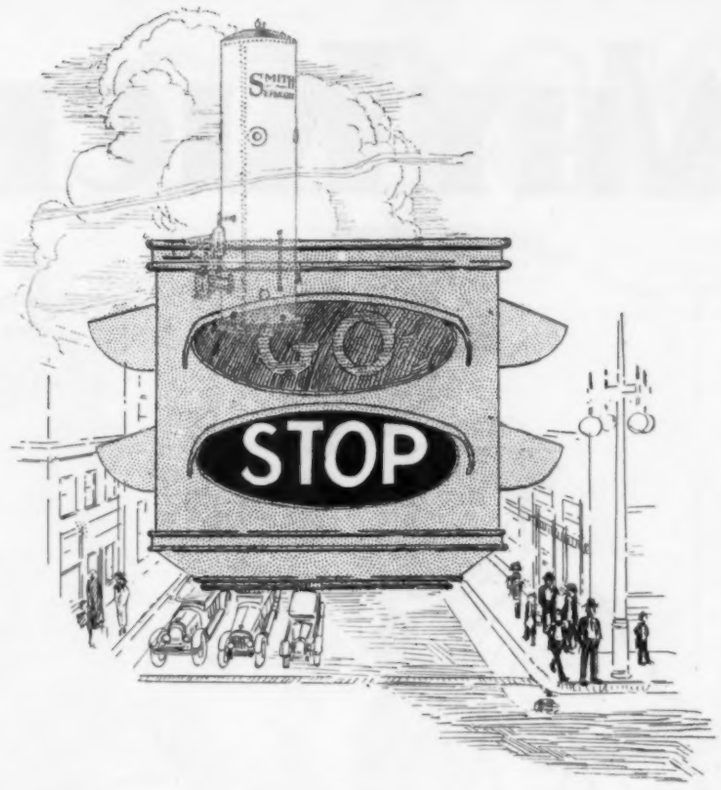
Dallas, Texas.—Headquarters of the Humphreys Corporation are to be moved this week from Dallas to Houston as result of the company recently shifting its wildcat exploration work from the East Central Texas fault region to the salt dome area along the Gulf Coast. The move will also place the affairs of the company under closer supervision of Judge J. A. Elkins, prominent Houston attorney and personal friend of Colonel A. E. Humphreys. Judge Elkins is general manager of the Humphreys Corporation, and is also attorney for the Pure Oil Company in Texas.

Office space on the fourth and fifth floors of the Mason Building have been leased in Houston, and between 25 and 30 employes will be moved from Dallas. Frank W. DeWolf, chief geologist; S. A. Judson, assistant chief geologist; Carl L. Mayer, head of land department, and J. J. Shrewbury, auditor, are the executives going to Houston, while Colonel Humphreys, president, and F. Julius Fohs, vice president, will reside in Denver and New York City, respectively. A small office will be retained in Dallas, with Dugald Gordon, geologist, in charge, while Pete Urschel, production superintendent, will divide his time on the company's producing leases in the Nocona and Richland fields.

Murchison-Fain Interests Organize as Trust Estate

Wichita Falls, Texas.—Murchison-Fain and others, who have had a marked success in the discovery and development of shallow fields in Archer and Young counties during the past two years on a partnership basis, have been organized into a trust estate known as the Murchison & Fain Oil Company, having a capital stock of $3,000,000.

The trust estate provides that the entire assets of the company shall be charged with payment of all its liabilities, and exempt the trustees and shareholders from personal liability from same. Clint W. Murchison is president of the new company; Earnest R. Fain, first vice president; Chas. P. McGaha, second vice president and geologist, and B. C. Ackerman, secretary-treasurer. The president and vice presidents are the three trustees.



Stop Your Evaporation Losses

Stop your hot weather evaporation losses this summer with a Smith Separator.

Put your production through a Smith Separator and it reaches the stock tank at from one-half to one and one-half points higher gravity than without it.

This increased gravity will overcome your evaporation losses. The saving will quickly pay for the installation and you will have a piece of equipment that will go on for years making these regular savings for you.

Hundreds of users will testify to the correctness of these claims.

Right now, before these losses commence, is the time to equip.

A type for every size production. Let us send a bulletin on the size to handle your production.

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Say you saw it in The Oil Weekly

WHY KICK

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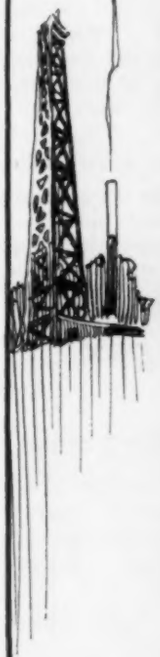
When rock is struck and it slows you down using other tools, put a Reed Rock Bit in the hole.

Days and even weeks have been saved by their use.

The countless teeth with their chisel-like blows penetrate hard formations of every character with unequalled speed.



Bit Company

TON LOS ANGELES

Gas Field in Buffalo Basin, Wyoming

Bureau of Mines report of a gas pool in Freemont County, sealed by petroleum residues

DRILLING now in progress in Buffalo Basin, Wyoming, indicates that large flows of gas may be found there over a considerable area, the limits of which are not yet defined. The field is only 35 miles west of the Lost Soldier oil field, so that if it contains sufficient gas it may furnish an auxiliary supply to the output of that field.

In the summer of 1924 A. J. Collier and E. T. McKnight, geologists of the Department of the Interior, Geological Survey, made a reconnaissance survey of Buffalo Basin. Through the courtesy of E. W. Krampert, geologist of the Kasoming Oil Company, they also obtained logs of the wells now being drilled.

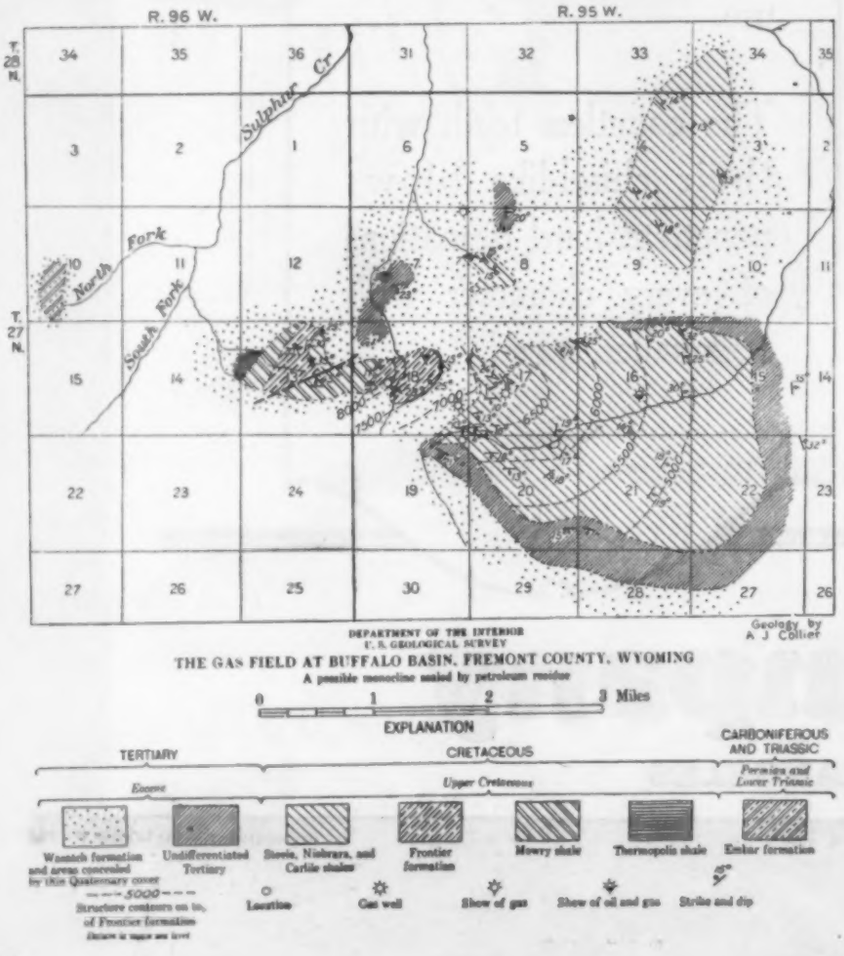
Rocks of the Buffalo Basin

As shown by the accompanying map, the Buffalo Basin uplift lies in T. 27 N., Rs. 95 and 96 W., and is marked by the largest of several exposed areas of Cretaceous rocks that are completely surrounded by unconformable deposits of Tertiary age. These Tertiary rocks include the Wasatch formation and undifferentiated Tertiary deposits, perhaps corresponding to the Ferris or Fort Union formation, which consist of nonmarine strata containing fossil plants, fresh-water mollusks, and fossil bones. In many places there are one or more beds of conglomerate at or near the base of the Tertiary rocks.

The thick beds of sandstone near the south line of sections 20 and 21, T. 27 N., R. 95 W., and the sandstone, sandy shale, and coal near the east line of section 15 are probably of Tertiary age, though they have been regarded by some as belonging to the Mesaverde formation, which is upper Cretaceous.

In the northern part of section 8, T. 27 N., R. 95 W., an outcrop of hard white sandstone containing fragments of fossil leaves shows dips to the southeast, east, and northeast, and in the southwest quarter section 7 a similar sandstone, which, however, contains no fossil leaves, shows dips to the north, west, and south. These sandstones have been regarded by some geologists as the Wall Creek sandstones (Cretaceous), but they may belong to one of the Tertiary formations. The dome near Van, Wyoming, is supposed to lie between these outcrops and is being tested by a deep well near the northeast corner of section 7.

The youngest rocks of undoubted Cretaceous age that are exposed in the Buffalo Basin area, named in descending order, are the Steele, Niobrara, and Carlile shales, which have a local aggregate thickness of 4000 to 5000 feet. These shales are underlain by the Frontier formation, about 800 feet thick, which includs several beds of sandstone, 10 to 40 feet thick, commonly referred as the "Wall Creek sands." The underlying Mowry and Thermopolis shales, as interpreted, show an aggregate combined thickness of about 450 feet, and the Cloverly and Morrison formations together are also about 450 feet thick. Apparently the heavy beds of sandstone and conglomerate that characterize the Cloverly formation in the Lost Soldier field are much thinner in the Buffalo Basin field. A well in the southwest quarter of section 18, T. 27 N., R. 95 W., penetrated 105 feet of yellow sandstone, believed to belong to the Sundance formation, and rocks belonging to the Embar formation occur in an isolated exposure west of Sulphur Creek.



Cretaceous Beds

The structure of the Buffalo Basin uplift is somewhat complex and is only partly revealed owing to the incomplete exposure of the Cretaceous rocks. Within the main area of exposures the rocks show a curving anticlinal nose that plunges eastward and is cut by a fault that extends northeastward through the center of section 13, T. 27 N., R. 96 W. The uplift apparently extends at least as far west as the area of Embar rocks mapped by Condit in section 10, T. 27 N., R. 96 W., and seems to be monoclinal, although the exposures may be on the east side of a dome. There is certainly a fault in section 13, T. 27 N., R. 96 W., by which the Frontier outcrop is displaced horizontally nearly a mile to the southwest, and there may be a minor fault

(Continued on page 110.)

GRADY TRIPLETT

Oil Weekly Representative, in the following pages, says - - - - -

"When You Save Vapors Then Profits Fall into Line"

BUTLER BOLTED TANKS

Are vapor tight! They "make profits fall into line!"

Evaporation is the thief of the oil field. In the following article on the next pages, Mr. Triplett stresses the necessity of conserving valuable vapors.

Butler Bolted Tanks are vapor tight. Just note one reason why.

Here's one reason

Holes for body sheets are punched at **one** time! No chance for human brains to go wrong and cause mistakes and loss of time and oil and money. These holes are accurately punched!

Here's another reason

The same kind of mammoth machine that makes the body holes at one time also punches holes around outer edge of deck and bottom. Each hole is where it should be. It fits.

Butler Bolted Tanks are tight and conserve your valuable vapors and make "profits fall into line."

Get all reasons

Read carefully what Mr. Triplett has to say—then get Butler details and prices.

Efficient and dependable

DEALERS

who sell and erect Butler Bolted Tanks

M & V Tank Co., at Wichita Falls, Vernon, and Olney, Texas.
Drane-Humphrey Co., at Fort Worth and Big Lake, Texas, and Carlsbad, New Mexico.
Drane Tank Co., at Tulsa and Holdenville, Oklahoma.
May Tank and Supply Company, at Casper and Salt Creek, Wyo.
M. A. Trimmer, at Blackwell, Oklahoma.
Wilson Tank and Culvert Company, at San Antonio, Texas.
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When You Save Vapors

Modern equipment has solved the lease evaporation problem

By Grady Triplett
Staff Representative

EVAPORATION is a vital subject with the oil producer because its prevention means increased profit.

This increased profit is assured in two ways. When evaporation is cut down, more oil is available for the pipe line company. Then the saving of vapors holds the Baume gravity of the oil to a higher figure, which throughout the Mid-Continent fields means higher price for the oil. Thus, the prevention of evaporation gives an oil producer more oil to sell and oil that will bring a higher price.

Although the first of these savings has been known perhaps as long as oil has been produced commercially, it was not until graded buying came to the Mid-Continent fields that the prevention of evaporation took root with producers. Many contended that the saving in volume was not sufficient to warrant the expense of equipment necessary to hold vapors. The expense of equipment always is an item to be considered in seeking any saving.

Different Now

But with the introduction of graded buying—the higher the quality, the higher the price—producers in the Mid-Continent fields have turned a willing ear to the subject of evaporation. A trip through the fields of any section of this great light oil district will leave two impressions. One is that some producers want to increase their money yield by increasing the quality of the oil that is run from their tanks. The other impression is that some producers—entirely too many of them—still look on the producing of a barrel of oil as a matter of pumping it into an open tank to stand until the pipe line company will run it.

If these producers are aware of the losses that occur while a tank of oil is open to the atmosphere, they have given it no heed.

Another impression that will come with a visit to any light oil field is that some producers, having provided adequate equipment, are not giving it the attention to assure its most economical service. Dirt-covered stock tanks, open thief holes and small leaks are evidence of this fact.

This section of The OIL WEEKLY is offered in an effort to acquaint the oil producer with the elementary facts of evapoartion and its prevention. These may be outlined as follows:

1. Evaporation losses are greatest on leases:

2. Losses in both volume and quality usually are greatest where the output of a lease is small:

3. Equipment is available by which it is possible to prevent the loss of vapors to such an extent that oil can be delivered to a pipe line company or a refinery in a condition practically identical with that which comes from the well.

Facts Established

These facts have been established by experiments of both public and private nature. The Bureau of Mines first went into the subject of crude oil evaporation. Later individual companies have conducted experiments, often having the assistance of men from the Bureau of Mines.

The several concerns manufacturing tanks and other vapor saving equipment have data on evaporation losses. This is all available for the consideration of the oil producer.

The most extensive investigation into the volume of crude oil lost between the well and the refinery is contained in Bulletin 200 of the United States Bureau of Mines by J. H. Wiggins. The findings of this investigation were to a great extent responsible for the change in methods of handling crude oil. These changes, mostly in the use of improved tankage, have been so extensive that the results of that investigation are no longer typical. But the losses revealed then still apply in the instances where men are still using tankage of the antiquated type.

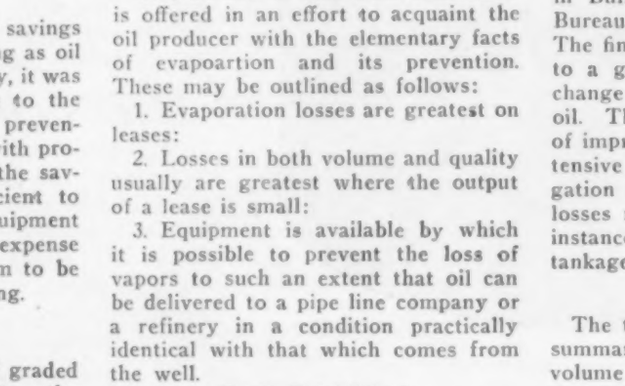
Volumetric Losses

The table on page 63 represents the summary of experiments as to the volume of crude lost in the Mid-Continent fields:

It is not worthwhile to detail the conditions under which these calculations were made. It is fair to state, however that the results came from tests made on equipment and methods in use throughout the Mid-Continent fields in 1918 and 1919, the time of the investigation.

The vital thing to the oil industry is that the investigation showed six and two-tenths barrels of crude oil lost from each hundred barrels produced, this total loss being divided into six steps in the progress of a barrel of crude oil from the well to the refinery.

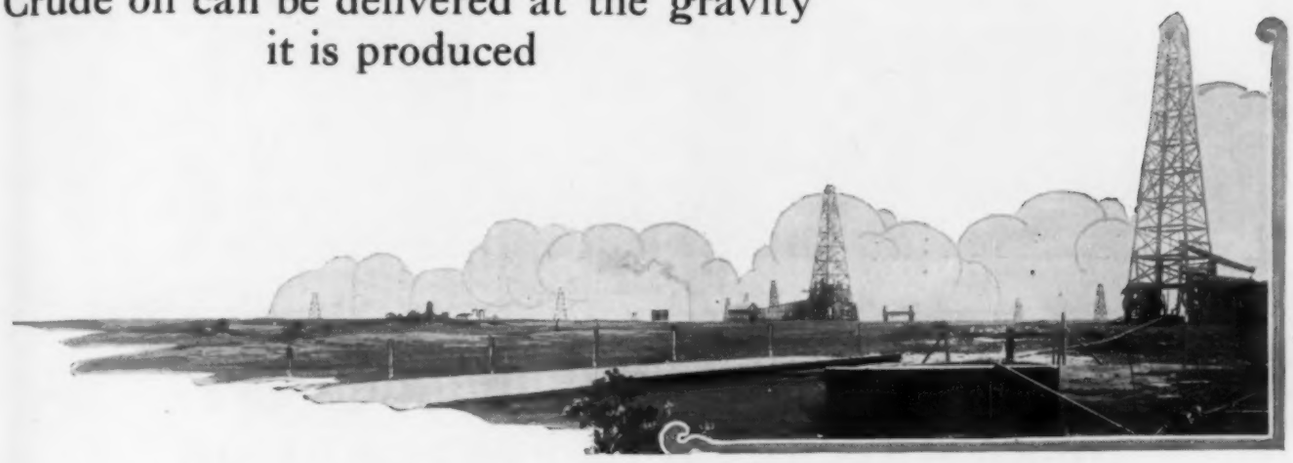
At present an oil of average quality in the Mid-Continent fields brings $2 a barrel. Such



Open flow tank and open lease storage—a good place for wind and sun to take away dollars.

Then Profits Fall into Line

Crude oil can be delivered at the gravity it is produced



a loss on this grade of oil means $12.40 wafted away on the breeze, during the moving of each 100 barrels of crude oil. Could such a loss be put into dollars instead of vapors, there is no doubt that producer and buyer would be making efforts more violent than those now apparent to save the elusive cash.

It is not fair, of course, to hold these figures up to the producer of crude oil. In the first place all the loss was not his at the time the data was compiled. Then he has changed his practices somewhat since that time. So it is safe to say that losses on Mid-Continent crude oil do not now amount to six and two-tenths per cent of the total brought to the surface.

The Producers' Part

Three items of the six listed in the table are worth considering by the producer. He fills the flow tanks, runs oil into the lease tanks and holds it there until the pipe line company takes it. And these three steps, at the time the investigation was conducted by Wiggins, represented a loss of three and one-half per cent of the total of crude oil produced in the Mid-Continent fields. This meant three and one-half barrels out of each hundred brought to the surface, or $7.00, to put into the money column, by which losses are more readily understood, were lost to the producer and lost to the consumer.

But leases present a changed appearance, so far as tankage goes, when the present is compared with four years ago. The improved type flow tank and stock tank of similar design are seen frequently now, whereas four years ago they were rare. Tank manufacturers say the change to buying crude oil on its quality in 1922 brought about the demand for better lease tankage.

But evaporation still goes on because lease tankage is not all of the proper construction and because that of proper construction is not always properly used.

The producer still clinging to overshot methods of pumping oil into tanks without tops or with holes in the tops is losing that three and one-half barrels of crude oil from each of his hundred produced. If his output is low and his equipment in sorry condition, he is losing in vapors more than three and one-half barrels, as that figure was an average.

Losses In Quality

Furthermore he is losing still other money by reason of the loss in quality of his oil.

Since the posted price of Mid-Continent crude oil was put on the gravity scale in 1922, there have been fluctuations of two sorts, those of price and those of grades. At times all purchasers have had a uniform schedule. Again there have been almost as many schedules as there have been buyers.

Under this condition, it is impossible to determine the exact value of each degree on the Baume scale. A calculation just made puts the value at 13.9 cents for each degree.

While the producer is losing some of the volume of his crude oil from evaporation, he also is losing the choicest part of his product on the quality basis, represented in 13.9 cents for each notch on the hydrometer. What evaporation means on this last score has never been calculated. That it means hundreds, thousands or millions is evident.

Consideration of the quality of crude oil brings the proposition down to a fine point. This average of 13.9 cents for each degree of the Baume scale is an average but buying is not done by each degree. At present there are eight divisions for Mid-Continent crude oil price schedule from 30 degrees Baume to 42, or a different price for each three degrees.

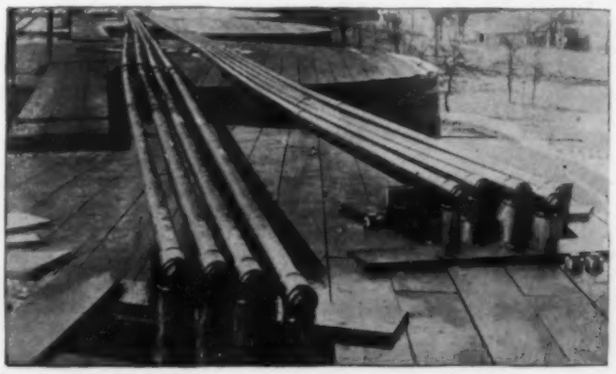
A Fine Point

So the matter maintaining gravity gets down to preventing it from slipping just one-tenth of a degree, rather than of holding it from one degree to another. If an oil is below 30, the price is fixed. So far as quality is concerned, there is no need trying to hold up the gravity of a Mid-Continent oil below 30.

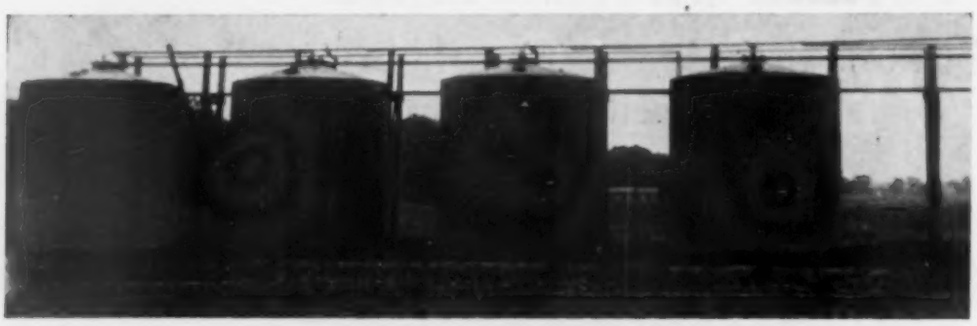
But, if an oil is 36 degrees Baume, there is something to be gained by holding it there. For oil of below 36 degrees brings 20 cents less per barrel than oil of 36 degrees and above. Thus the question of preventing evaporation gets down to a fight of method and equipment against vapor tension and atmosphere, with divisions of one-tenth of a degree Baume as the dividing line between profit and loss.

It is too much to expect any equipment to prevent all loss by evaporation on a lease. While equipment can be made, it would not be economical for installation on a lease.

But there is ample equipment for lease installation to prevent the enormous evaporation losses that are com-



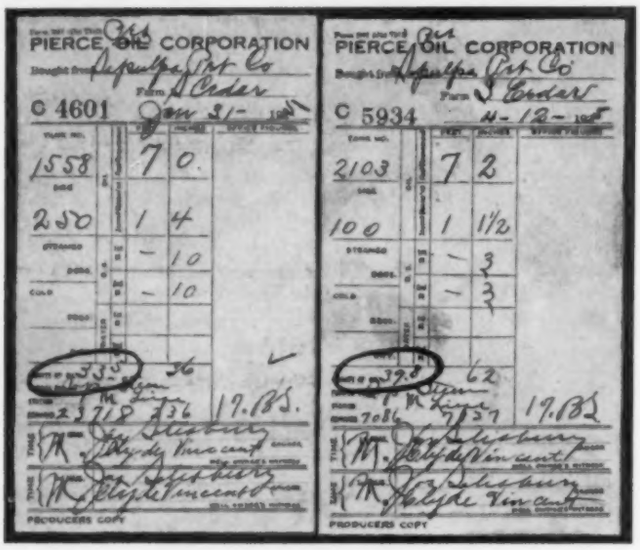
Dollars pouring out through the pipes: dimes escaping through the overshot holes and cracks in the wooden roof.



American Welded Tanks

HERE IS THE PROOF
OF HOW TO PREVENT EVAPORATION

AMERICAN TANK CO. TRADE MARK WHOLESALE RETAIL



Note increase in gravity from 33.5 at 36 degrees temperature to 39.8 at 62 degrees temperature as shown by these run tickets.

Two 250 barrel competitive bolted steel tanks were used for storing oil being pumped from a well. As shown on Ticket No. 4601, the gravity of oil run was 33.5 degrees at 36 degrees temperature, or gravity of 35.3 degrees corrected to 60 degrees temperature.

The two 250 barrel bolted tanks were replaced with two 100 barrel AMERICAN WELDED TANKS. As shown by Ticket No. 5934, the gravity of oil run from these tanks was 39.8 degrees at 62 degrees temperature, or gravity of 39.6 degrees corrected to 60 degrees temperature.

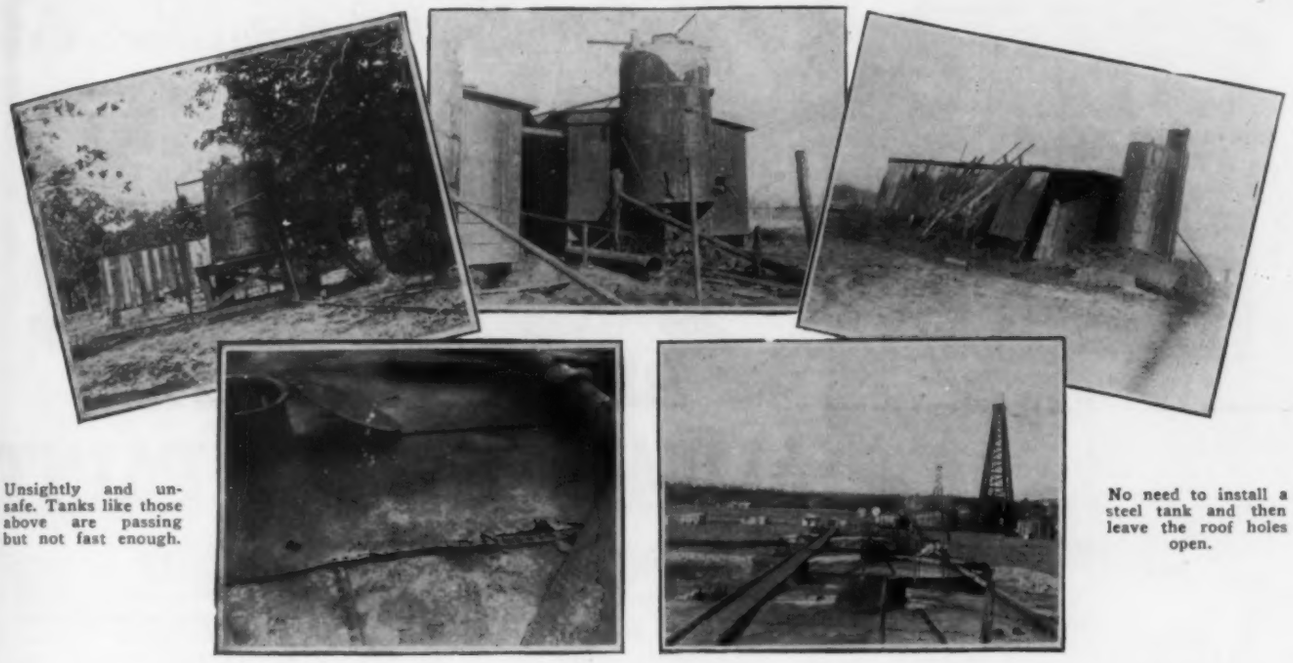
This shows an increase of 4.3 degrees by using the American Welded Tanks, which makes the oil from the same well bring forty-five cents ($0.45) more per barrel. And this producer estimates that he saves at least one barrel per day in volume.

Figuring the production from this well at 15 barrels daily, the savings are as follows, in addition to salvaged 250 barrel tanks:

15 bbls. per day @ $0.45	$ 6.75
1 bbl. per day saved in volume	2.25
Increased saving per day	$ 9.00
Increased saving per month	270.00

Let us quote you on American Welded Tanks

AMERICAN TANK COMPANY
OKLAHOMA CITY and TULSA



Unsightly and unsafe. Tanks like those above are passing but not fast enough.

No need to install a steel tank and then leave the roof holes open.

mon to the careless production methods, still too evident in the Mid-Continent and other fields. Open flow tanks, over-shot pipe openings and even open lease storage are still to be found in the oil fields.

Older Fields Worst

This type of equipment seems to be the more common in the older fields, where output is lowest. And it is here that losses are highest. For the low output means that long periods must elapse between runs by the pipe line companies. So the oil, filling the tanks slowly, stands for protracted periods, while sun and atmosphere do their worst toward decreasing volume and bringing the quality down to the point that the price per barrel is below what it would be under proper conditions.

Undoubtedly the surest method of preventing loss from evaporation is to install equipment designed and built for the purpose and then to maintain it as specified by the manufacturer.

Other methods are available and have been adopted but to a degree of success short of that of the use of equipment manufactured for the purpose. Covering steel tanks with a wood housing is one effective means of holding down evaporation losses on lease storage. Wooden tanks can be thus protected. But these are just betterments of the older system of leaving lease storage tanks open at the top or partly open and giving no heed to losses from evaporation.

Since 1922 the distribution of flow tanks and lease tanks of the evaporating prevention classification has grown at an alarming rate. There are concerns devoting their whole manufacturing and sales energies to provision of tankage and other equipment for saving vapors, which is another way of saving money. While there are differences in this equipment, from it the producer can find something to suit his needs and fit his pocketbook.

Negligence Evident

But the trouble manufacturers are now meeting is the lack of care after equipment has been installed. So far, nothing has been offered that will save vapors and leave workmen to their careless ways of giving tank covers no attention.

Here is a sentence from the report of an engineer, who went into the field to inspect some equipment on which a producer had made complaint:

"An examination of these tanks showed that the gas from the flow tank was passing over to the 250 barrel storage tank then being filled and passing to the atmosphere through the liquid seal."

That, like scores of other instances, was a case where workmen on the lease had failed to give good equipment proper attention.

Here is an excerpt from another report that followed investigation of the functioning of lease storage equipment of the class known as vapor-tight.

"It had been noted by officials of this company that even though lease storage tanks had been set gas tight, still under ordinary operating conditions, the benefits that might have been received from this work, were lost because the pumpers and gaugers left gauge hole covers open, did not keep the liquid seals filled with oil, left valves between tanks on in coming flow lines open so that vapors could pass from one tank to another."

Another report on conditions on a lease, where good equipment had been provided:

"The pumpers were all afraid to keep gauge hole covers closed when running oil into the pipe lines, as they claimed it would cave in the decks with the covers down. So they usually left them open at all times."

Up to the Men

So the matter of evaporation gets down to the pumper and gauger. No equipment is better than the use it has on the lease. Properly maintained, it will give the service built into it. When improperly used, it can never give the service built into it.

While manufacturers unanimously agree that their chief problem is getting proper care of modern equipment, none could be found with a method for getting such cooperation. Neither could an oil concern be found, with a system or a department for determining what benefit is being derived from equipment, once it has been installed.

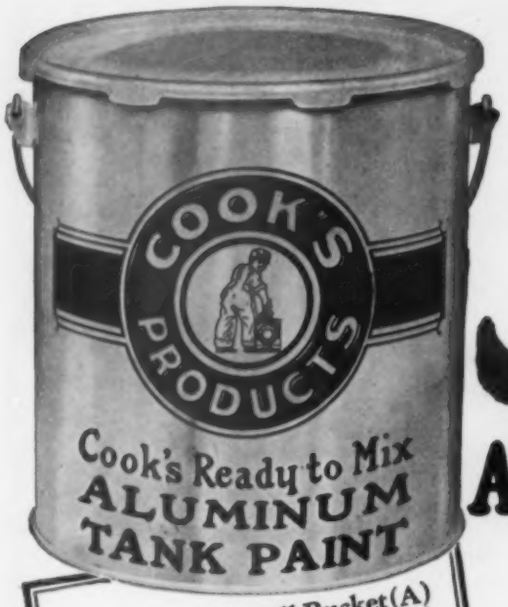
When it is remembered that a thin crust of dirt on the deck of a 500 barrel tank is a factor for running the evaporation loss up, the problem can be appreciated. But that fact has been established. Dirt on a tank roof permits the sun to store up heat, which in

(Continued on page 78.)

Table Showing Results of Experiments Made by the Bureau of Mines

Percent of Volume Evaporated

Location of Loss	Summer	Spring and Autumn	Winter	Average	Source of Information
Flow Tank	1.2	1.0	0.8	1.0	Estimated with help of
Filling Lease Tank	1.2	1.0	0.8	1.0	Lease Tank Test.
Lease Storage	1.8	1.4	1.2	1.5	Test
Gathering	1.3	.9	.8	1.0	Test
Transportation	1.2	.9	.8	1.0	Test
Tank Farms	.9	.7	.6	.7	Estimated with help of Tank Car Tests.
Totals	7.6	5.9	4.9	6.2	



Cook has pioneered again, this time with a

fresh

READY-TO-MIX ALUMINUM TANK PAINT

Now, in this *new* and *unique* package, you may buy Aluminum Tank Paint that is sure to be *fresh.* Because it *is* fresh, it has greater "leafing power", it wears better, and it reflects light and heat most effectively.

Science has proved that Aluminum Paint, to be most effective, must be applied when freshly mixed. It has remained for the Cook Paint and Varnish Company, pioneers in the manufacture of paints for the oil industry, to devise a paint package which assures *easy and foolproof mixing.*

When you use Cook's Aluminum Tank Paint, you get Liquid and Powder in exactly the right proportions, ready to mix. It is bright, shiny, *new* paint—with a covering capacity of 750 square feet to the gallon. The greater leafing power of the fresh Aluminum "seals in" the paint, giving maximum wear and maximum heat reflection. One coat will do the work. It may be applied with either brush or spray.

As an undercoat, use Cook's Rust Inhibitive Primer. It prepares the surface so that less Aluminum Paint is required; and firmly anchors paint to metal.

For dado work on tanks, use Cook's Steel-Kote, the toughest paint film known. It spreads farthest, covers better, wears longer. Preserves steel and prevents rust.

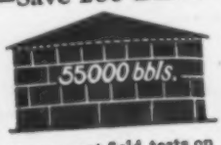
Powder in the Small Bucket (A) Liquid in the Large Bucket (B) Together in a 5-Gallon Package

The large bucket "B" contains the Liquid and a separate bucket "A" which contains the Aluminum Powder. Remove the lid of the large bucket and take out the smaller Bucket containing Powder. Cut out the soft tin top of Bucket "A" and dump the Powder into the Liquid. Stir well with a wide, flat paddle that is long enough to reach the bottom of the large bucket.

Mix It on the Job as You Use It—

This *fresh* mixture gives a bright, shiny paint of superior quality, containing exactly the proper proportions of Powder and Liquid. Science has taught us that Aluminum Paint must be freshly mixed to be most effective. This unique Cook package assures *easy, foolproof mixing.*

Fight Sunshine with Cook's Tank Paint —Save 200 Barrels Yearly, Per Tank!



Government field tests on 55,000-barrel crude oil storage tanks show that Aluminum-painted tanks lose by evaporation 200 barrels less oil in a year's time than black tanks.

Black tanks absorb the heat from the sun's rays, causing excessive evaporation. Aluminum-painted tanks *reflect* the sun's rays, and thus remain cool. It's cheaper to paint a tank than to lose 200 barrels by evaporation!

Cook Paint and Varnish Company

Pioneers in the Manufacture of Specialized Paints for the Oil Industry

Factories: Kansas City and Fort Worth

8 Warehouses for Quick Shipments in the Mid-Continent Field: Omaha, Wichita, Oklahoma City, Tulsa, Dallas, Denver, Fort Worth, Kansas City.

Mail This Coupon Today for Cook's Special Introductory Offer

Cook Paint and Varnish Company, Oil Industry Service Dept.
1319 Grand Avenue, Kansas City, Mo.

Gentlemen: Please send me full details of your Special Introductory Offer on Cook's Ready-To-Mix Aluminum Tank Paint, in the new 5-gallon package. Also send me information regarding your Rust Inhibitive Primer and Cook's Steel-Kote. I (have) (have not) seen your booklet "Cook's Paints for the Oil Industry". Please send me a copy.

Company Name.....

Individual To Address.....

City and State.....

Say you saw it in The Oil Weekly

Paint for Lease Tanks is Good Investment

Apply it with a brush or with compressed air

By Grady Triplett
Staff Representative

PAINTING for the purpose of preventing evaporation of crude oil has been slow in gaining a foothold. Yet paint can serve a double purpose on oil tanks—that of saving the tank and saving some of the crude oil.

The experience of refiners is proof of that, for most all refinery tankage is painted in light colors, which reflect heat. Further proof is found in the experiments recently completed in the Burbank field by the United States Bureau of Mines. These showed that aluminum paint on a 55,000-barrel storage tank will protect the contents better than gray, red or black paint. The results of these experiments are given in this section.

Paint salesmen have found it difficult to induce the producer of crude oil to paint lease storage. To the producer paint has been a good investment for the refinery, whose products are highly volatile, or the pipe line concern, which holds crude oil over long periods.

Good for Producer

Yet proper painting will bear profitable returns to the producer just as it will to the refiner or the pipe line concern. The brief period that crude oil is held on a lease is that in which it is most subject to evaporation, having the greater proportion of light fractions at the time it is brought to the surface.

If it is profitable to provide gas-tight tankage on a lease, it is wise to keep it painted. And painting should be done for the double purpose of protecting the metal and for keeping the temperature low inside the tank. Where a paint combines the two qualities, it is undeniably the proper paint.

Chemists and engineers of the refining and pipe line concerns have given thorough study to the subject of painting and the result is that their use of paint is in keeping with the purposes of the manufacturers.

The producer of crude oil has neither the time nor the facilities for such study. Rarely would it be economical, if he did have time and facilities.

Two Ways

But he does have access to the knowledge and facilities of the tank manufacturers and the paint manufacturers. The larger paint manufacturers furnish information by which any man can take care of his tanks. Besides, they have service departments which are at the call of the man using paint in the fields.

With such service at the command of the producer, it is needless to go into details of tank painting. Some general statements may not be out of place.

There are two methods of applying paint to tanks—the brush and compressed air system. Choice between these depends on the amount of painting to be done. The man with limited tankage would not find it profitable to buy equipment for painting with compressed air. On the other hand, the man with sufficient tankage to keep such equipment operating the better part of the year might find it profitable.

There are painting contractors who will apply paint by either method.

For painting a new tank, some find it best to wait a few months after it has been set before painting. This applies to a tank not painted at the time of setting. The few weeks in the atmosphere gives opportunity for mill scale to fall from the walls of the tank.

Before Painting

Meanwhile rust will begin. Before painting, both rust and the remaining mill scale must be removed. A steel brush will accomplish this. This should be used until the metal is visible over the whole tank surface.

Painting after that is little different, whether applied by hand or by compressed air. Three coats are considered best for tank painting. The first of these is a metal primer. This is to prevent rust. When it has dried the first coat can be applied. Specifications furnished by all paint concerns give details for application of the several coats.

Where compressed air is used equipment must be bought. In applying each coat it must be mixed according to specifications differing from those of hand painting. Oils for this purpose are furnished by the paint concerns. These are to make the product thin enough to spread properly under pressure.

Compressed air painting is faster than hand painting. For that reason it is cheaper, provided sufficient painting is done to warrant installation of the equipment.

Most lease tankage now comes painted, especially the patented vapor-tight tanks, which have come on the market in the past few years. Colors are

(Continued on page 106)

Applying aluminum paint with compressed air as practiced by the Pure Oil Company.

LIQUID SAFETY VALVE

a Westcott & Greis product

SOUNDS THE KEYNOTE OF CONSERVATION

Without the application of tested principles of conservation and safety, to your tanks, the money you spend on equipment, and part of your oil, are LOST.

But with Liquid Safety Valves think what you SAVE!

Evaporation is almost entirely eliminated. Insurance rates are lowered to the minimum. Your tanks are rendered collapse and rupture proof.

ALL THIS AT A LOW FIRST COST AND PRACTICALLY NO UPKEEP.

Write for further information.

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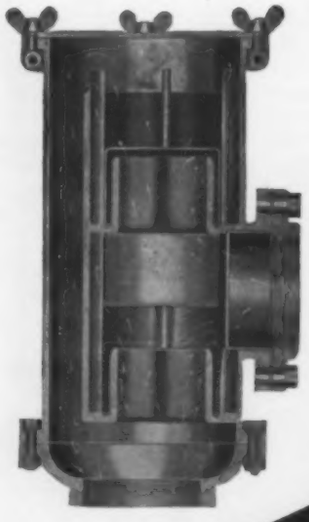


Suppose your Tanks were filled with Gold—

Manufacturers Have Done Much to Cut Evaporation Loss

Industry should take advantage of improved equipment which is a result of much research

WITHOUT the research of engineers and the efforts of manufacturers, evaporation would still be a "necessary evil" in the production and handling of crude oil.

Methods and equipment of manufacturers differ. But each concern is offering something, whose correct use will aid the producer in getting a product of better quality for delivery to the pipe line concern.

The extracts presented herewith are taken from literature of the concerns offering the equipment. Limited space makes it impossible to give complete descriptions. But the producer can gain some idea of what is available.

It seems almost useless to add that the manufacturer is ready to furnish further details and to work with the producer in accomplishing the goal of conquering evaporation.

American Tank Company, Oklahoma City, Okla.—Welded flow and stock tanks are a specialty with this company. Sizes up to 250 barrels are shipped from the factory ready for setting up. Larger sizes are welded in the field.

Concerning the Jay Walker Gas Trap and Flow Tank, literature of the company reads: "Complete separation of the gas from the oil is accomplished by arrangement of special baffles. No oil is wasted by being blown into the air, as the wild gas is released and all gas taken off for lease or plant use is dry.

"The wild gas which is released is conveyed away from the tank by 6⅝-inch lines and the pressure regulator may be placed any place in the line or on top of the tank as desired.

"Oil and gas are automatically separated and automatically drawn off. The b. s. and sand which settle at the bottom can easily be cleaned out through the 4-inch line at the apex of the coned or dished bottom."

The flow tanks are built to stand not more than 6 pounds of pressure. The tank can be equipped with 8 or 12 inch stack by removing the manhole cover and bolting the stack in its place.

Splash boards in front of each inlet break up the gas and oil, allowing the oil to go to the bottom, the gas rising and passing through the perforated baffles, which strain the oil and allow gas to pass off dry.

The stock tanks are made of copper alloy steel of special welding quality. Tanks are tested under air pressure before leaving the shops. They are painted light gray to counteract the heat of the sun and further reduce evaporation. They are made to withstand any pressure desired.

Equipment consists of inside and outside ladders, special b. s. cleanout plates, 8-inch standard thief hole, inlet and outlet flanges and 2-inch American vacuum and pressure valves.

Sizes larger than 250 barrels are erected in the field. The 500 barrel welded stock tank is braced to stand more pressure than bolted stock tanks. They may be cut down and moved.

The American Gauging and Receiving tank is designed to allow the pumping of several wells into the tank and permit seeing and measuring the output of any one well at any time.

Concerning this specialty for which patent has been applied, information from the company reads:

"Furthermore the oil in the tank is never exposed to the atmosphere and a pressure can be maintained in the tank so as to prevent evaporation and to hold up the gravity of the oil and also to have gas for lease use."

This company also makes gas-tight bolted tanks and bolted flow tanks, as well as wooden tanks for both oil and water.

Black, Sivalls & Bryson, Inc., Bartlesville, Oklahoma.—Before Perfection Vapor Pressure Tanks, manufactured by this concern, were put on the market, extensive tests were conducted to determine just what qualities a lease tank should have. Tests on storage tanks and others by laboratory methods were used.

From these it was decided that the tank this concern wanted to offer the oil industry must meet these four conditions:

1. Strength to maintain at all times the pressure produced by normal, stable crude—approximately one pound per square inch.

2. Construction that would permit easy and quick setting; also cutting down and resetting as many times as required.

3. Deck and bottom construction that would not warp and buckle under pressure, nor under expansion and contraction due to heat.

4 Valves to regulate pressure and vacuum.

A description from the company gives the following concerning construction:

"Strength is provided by staying the deck with rafters bolted to the deck sheets. The bottom is stiffened by heavy angles bolted to the bottom and radiating from the center to the circumference of the tank.

"The angles (or rafters) in the deck are tied to the angles in the bottom by heavy gussets and tie braces, which also act as struts, and brace the tank against vacuum.

"The deck is finished with a welded steel dome, with heavy cap to which the deck sheets are bolted. The deck is a true cone, constructed of triangular sheets, whose seams are radii of the cone's surface; seams are reinforced inside by a channel iron and outside by a heavy bar.

"The walls are built up of Perfection flanged staves. By this means the wall of the tank is braced and stiffened by flanges which circle the tank like hoops, and vertically by flanges which prevent bulging."

These features of construction are to meet the conditions set up in the first three of the objects listed above. The fourth is met by the special pressure and vacuum valve of the disc and spring type. It is manufactured to hold the pressure of one pound to the square inch, which officials of this company consider necessary for proper evaporation control.

This company installs and adjusts equipment in accordance with the type of production on a lease. The manner of production, pumping, flowing by heads or flowing steadily, as well as the class of oil produced, are items to be considered in selecting and adjusting its equipment.

The Vapor Pressure Flow Tank usually is installed with each battery of flow tanks. This serves as a gas trap as well as a flow tank. It is a common practice to equip only the flow tank with the pressure relief valve, with each stock, however, connected by a vapor line with the flow tank, above the oil level.

"Thus set," the literature of the company reads, "all the wild gas escapes from the flow tank. Should any stock tank make excessive vapor pressure, this pressure equalizes itself through the rest of the battery. Should any stock tank make unusual vacuum, that also is equalized through the whole battery. In fact, in such case that tank may draw excess vapor from the flow tank. In this way, a constant balance of vapor pressure is maintained and evaporation avoided."

Centrifugal force is the power used for separating gas from oil in the Perfection Vapor Pressure Flow Tank. The whirling motion of the mixture as it enters the tank causes separation because oil is heavier than gas.

Butler Manufacturing Company, Kansas City, Mo.—In manufacturing Butler Bolted Tanks, the bolt holes for a section are punched simultaneously. This insures proper fitting when they are set up in the field, with the result that seams can be made to withstand the pressure required for preventing evaporation.

The Butler Improved Pressure Flow Tank is equipped with one special 6-inch Buck Combination Relief Valve and Vacuum Breaker; the relief valve is set to carry two pounds pressure upon the

Knowledge—

"To know a thing is to be but half wise; but to know a thing and to do that thing is true wisdom," so we are taught. Thus a man is paid for what he can DO with what he KNOWS.

All have knowledge of the fundamentals necessary for success but it is the application of the principles that make possible the ascent of the ladder.

Studying your trade paper will not only insure you a complete knowledge of your business but will show you the most economical and efficient means of applying this knowledge.

Are you, as a producing executive or field man, studying the editorial and advertising pages of The OIL WEEKLY each week? They contain many ideas that will add to your storehouse of knowledge and make possible its most useful application. There is much in this issue that will help you make returns on your subscription investment.

tank which pressure is well within the safe pressure the tank will carry.

This relief valve is of the Buck improved type which can be readily tested at any time by raising of the valve bonnet with the finger. The valve breaker is also of the improved type which may be tested at any time while the tank is in operation. The tank is therefore ready at any time to deliver gas to the gathering lines or natural gasoline plant and thus to afford the maximum revenue either from sale of gas for gasoline purposes or for fuel. The two-pound pressure carried at the tanks, insure delivery of ample amounts of fuel to drilling boilers, so long as there is gas flowing from the well in sufficient quantities.

In the case of wells flowing by heads and making a large production of gas, additional relief valves are supplied in the form of Buck Special Two-Pound Flow Head Valves of 8 inches diameter.

Butler Stock Tanks are equipped for conservation of evaporation with the Buck Type "C" stock tank valve. This valve is so designed as to insure constant and reliable operation under all conditions. It has large capacity and will take care of production flowing to stock tanks of as much as 2000 barrels per hour and will safely protect the tanks when pumping out through pipe line connections at the rate of 1000 barrels per hour, or more. The valve is so designed that the valve guides are not exposed to the gases escaping from the tank and consequently cannot be gummed up by oil mist escaping with the gas. It also prevents water vapor condensate on the guides which might freeze and stick the valves in extremely cold weather.

The valve body or casing is so designed as to drain the condensation oil and other fluids back into the tank and away from the valve seats. Both vacuum and pressure valves are tested in a moment's time, without tools, merely by lifting the exposed stem of the vacuum valve with the finger and thus raise both valves from their seats and insuring perfect working at all times.

Chicago Bridge & Iron Works, Chicago, Ill.—In the Wiggins Floating Roof, the Chicago Bridge & Iron Co. offers equipment designed for preventing both evaporation and fire. This roof, which moves up and down with the oil contents of a tank, leaves no vapor space corresponding to that in the dome of a tank with stationary roof.

This roof is described as follows:

"The float is the main body of the roof and consists of a blanket of steel, about one foot less in diameter than the tank.

"The seal is the means of joining the roof to the shell of the tank in sliding contact. It consists of a shoe, a flexible gas-tight fire-proof material, a spring-pressed plunger and hangers. The seal is made in sections, flexibly jointed to the top of the rim of the roof and to each other. The shoe having the same curvature as the tank, and beveled to ride over plates and rivets, affords close contact with the shell of the tank for a vertical distance of about 20 inches. The shoe is supported by practically frictionless hangers which are so disposed as to cause the weight of the seal to throw itself positively against the tank. As the shoe comes closer to the roof than its normal distance, it engages a spring-pressed plunger carried by a horizontal nipple. This plunger pushes the float away from the shell of the tank."

Drainage on the roof is cared for by either a siphon or a pantographic arrangement of pipes. The first of these is recommended for tanks that are emptied and filled frequently, the latter for tanks that stand for long periods.

As a wind brace, a girder of stiffening angle is placed at the top of the tank. This girder also serves to keep the tank round.

A small railed platform is at the top of the stairway. This projects toward the center of the tank and is over the gauge hole, eight inches high and 24 inches wide. This allows the gauger to drop his thief while standing on the platform. A small brass chain extends from the thief hole cover to the platform. A pull opens the cover. Releasing the chain shuts the cover.

The swing pipe hatch, one foot wide, three feet long and two feet high, is rectangular so the swing pipe may be pulled into it easily. The swing pipe is of a flexible metal hose and may be of any ordinary size. When it is necesasry to repair the oil valve outside the tank, the swing line may be drawn into the swing pipe hatch out of the oil.

Columbian Steel Tank Company, Kansas City, Mo.—Prominent in the line of tankage offered by this company is the Columbian Vapor Pressure Tank, equipped so dozens of wells may be pumped into it through a manifold, while gas for natural gasoline and fuel purposes may be taken off. Bottom, sides and deck are of 12 gauge steel, bolted with half inch bolts. The deck is trussed and the interior is reinforced to withstand the pressure of two pounds often held on the equipment.

Deck construction is described by the company in this way:

"Sections are cut 'pie shape' and have a box rib, or corrugation, running the length of each deck section. This is formed in the deck sheet. The left side of the deck section is turned down at right angles forming an angle rafter.

"On the larger size tanks from 2500 to 10,000 barrels inclusive, the deck sections are further reinforced with flanged truss plate rafters and Z bars."

A line of gas-tight Deck Equipment is offered by this company. The Special Flow Tank Relief Valve is set in a house of two pieces and described as follows:

"Working in the dome and guides of the base is a steel piston. On the lower end of this piston is fitted a heavy brass ring. The weight of the piston seats the brass ring accurately over the orifice of the base casting. The amount of pressure to be held is regulated by adding weight washers to the top of the piston. Pressure valve opening is 6 inches.

"In the bottom center of the piston or pressure valve is fitted a 3-inch vacuum relief valve of brass. It is seated under the pressure valve by a tension spring set to act at a specified vacuum."

The Combination Thief-hole Cover and Relief Valve is described:

"The base of the valve is cast in the thief-hole cover. The valve seats under the orifice by means of a tension spring on the valve guide, which extends up into the dome. Valve is of brass and seats on the machined shoulder of the orifice. It is housed in an aluminum dome under the edge of which air is drawn into the tank.

"The thief-hole base and cover are of cast steel. The cover has a foot lift so hinged to the base that it is self-closing. The weight of the lid acts as a pressure relief-valve."

This company offers a Certified Relief Valve of aluminum, four inches in diameter and,

"Accurately seated by two tension springs fitted on opposite sides. Fitted in the center of the pressure valve is a 3-inch brass vacuum valve. This is seated by a tension spring on the valve guide, which passes through the center of the pressure valve."

Each of these valves is certified by an official of the State of Missouri to the effect that it has been set, tested and sealed.

The Gas-tight Manhole Dome of heavy gauge steel has collar welded into one piece, with wide bolting flange around bottom and top.

"Inside of the top edge of the collar is welded a steel band. Between this and the collar a rubber packing band is inserted and clinched. The packing band extends up higher than the steel collar and makes a tight contact with the cover."

It is equipped with a 6-inch collar in the center for fitting relief valve or gas line.

This company also offers a floating deck for tanks, designed to prevent fire and evaporation.

Cook Paint and Varnish Company, Kansas City Mo.—In addition to its other paints, this company has recently come to the oil industry with an aluminum paint ready to mix before application.

That this will meet approval in tank painting is evident from the fact that many concerns preferred to buy ingredients and mix aluminum paints just before applying them. Some men prefer that an aluminum paint mixture be made not more than six hours ahead of applying it to a tank.

But this company has overcome an obstacle common to the mixing of paints on the job. The liquid and the powder come in exact proportions, assuring the proper mixture. When each paint crew was allowed to prepare its own mixture, the danger of wrong proportions existed.

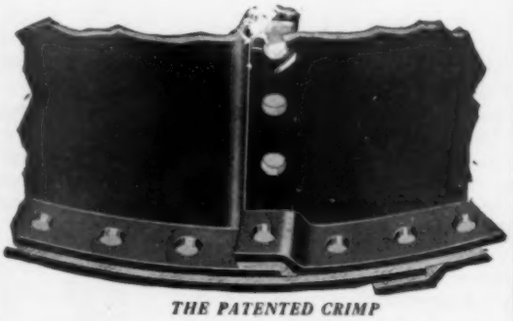
The paint can be applied with either brush or spray.

The company prepares a long list of

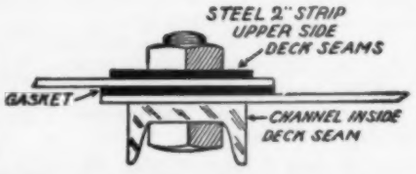
THE LOGICAL WAY TO ELIMINATE EVAPORATION *IS THE* MALONEY WAY

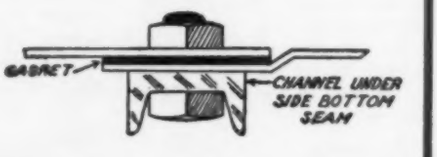
MADE OF KEYSTONE COPPER STEEL

MADE OF KEYSTONE COPPER STEEL



THE PATENTED CRIMP





For years, thousands of gas and vapor-tight Maloney Tanks have been proving that the Maloney Way of building bolted steel tanks absolutely insures against evaporation. Maloney patented crimped off-set seam construction cannot be duplicated in any other tank made.

The Maloney Way is the simple and **economical way** to eliminate evaporation.

"Alone in Quality"

Maloney Tank Mfg. Company

Tulsa **Oklahoma**

12 to 3,000 Bbls. Capacity

Prompt, Dependable Export Service

We now furnish "Buck" type vacuum-pressure valves and vacuum breakers

MALONEY

MALONEY PATENTED BOLTED COPPER-STEEL TANKS

Say you saw it in The Oil Weekly

paints for storage and refinery tank uses.

Johns-Manville, Inc. (Oil industry department, St. Louis.)—The Johns-Manville Vapor Tight Insulated Tank Top is designed for installing on tanks already equipped with steel or wood decks. The manufacturers claim it will prevent evaporation by stopping the passage of wind through the vapor space in a large tank by reducing the temperature variations in a tank.

The roof is made of materials which are heat resisting. Through this the range of temperature change in the tank is narrowed. The means of installing it on a tank are such that small openings common to wood roofs and to steel roofs not properly laid, are eliminated. Without these openings, the wind cannot have access to the vapor and carry it away.

Tests made by engineers of this concern convinced executives that the chief cause for breathing in gas tight tanks was the daily change in vapor pressure, due to the change in temperature of the oil surface. So the tank top was made of material that would resist heat, rather than permit it to reach the oil.

Construction of the roof permits it to be laid at a slight pitch, which reduces the area of the space between the oil level and the roof. Construction of a roof is described as follows in literature from the company:

"The entire wood deck is covered first with a layer of unsaturated felt, to which a half-inch thick layer of Tankinsul, nailed at all edges, is sealed with oil vapor-resisting cement. This Tankinsul, is then covered with Johns-Manville Phoenix Asbestos Felt, mopped in with hot asphalt, all edges lapped three inches and thoroughly nailed, followed by a layer of Johns-Manville Salamander Asbestos White Top Felt in broken-joint construction, mopped in with hot asphalt, all points lapped three inches."

The eave construction is such that the roof at the edge of the tank is free to slide on an angle iron to accommodate the movement of the sides of the tank during filling and emptying.

In the specifications, only one vent is required. This is classed as a "free vent." It is requested that all pressure valves be left off.

When applied over a wood roof, the company specifies an overhead grounded network of cage, enclosing the roof and eave construction. This serves as a lightning arrester.

Graver Corporation, East Chicago, Indiana.—On large storage tanks, in addition to vapor tight construction, the Graver Corporation offers Mercury Safety Valves, which limit vacuum or pressure on a tank to about one-half ounce per square inch. The vapor is discharged and vacuum relieved by vents carried over the sides of the tank.

Where two vent lines are used, they are placed parallel, to prevent the possibility of a draft being set up through the tank. Fine mesh wire screen covers the ends of the vent pipes to keep a flame from igniting the tank in case of fire.

Surveys conducted where installations of the equipment of this company is in use report evaporation losses on stored oil of as low as 1 per cent a year.

To reduce the range of temperature change in the top of the tank, the practice of this concern is to paint the roof and top ring of the container with aluminum paint.

Hill, Hubble & Co., San Francisco, Cal.—This company is marketing an aluminum paint under the name of Bitulumin for steel storage tanks. After statement concerning the value of aluminum paint for keeping lower temperature in a tank, this company has this to say of its own product:

"Another point concerning Bitulumin is that many oil tanks have been painted black because black paints were not only cheap but afforded a fairly good protection. It has been a troublesome problem repainting these black tanks in light colors, owing to the fact that the black, which was usually of an asphalt or coal tar base, would bleed through.

"Bitulumin will do this in one coat."

St. Louis Surfacer & Paint Co., St. Louis, Mo.—This company replied as follows concerning its product for tank painting:

"The best data we have available regarding the product we have for reducing evaporation losses is the inclosed chart, which shows the savings that were effected by the use of Metalsteel Aluminum Tank Paint on the test recently conducted by the Bureau of Mines."

This test was conducted to show the heat reducing properties of black, red, gray and aluminum paints in a large tank. The oil saving of aluminum paint was 202 barrels a year on a 55,000 barrel steel tank.

Oil Conservation Engineering Co., The, Cleveland, Ohio.—This concern goes in for counteracting evaporation in oil storage by offering a line of equipment to meet every need of the purpose. In addition to its equipment, it offers field service throughout the oil producing territory.

Its devices are offered under the name of OCECO equipment. The line includes a conservation unit, a cable sheave bracket, safety tank winch, roof manhole cover, gauge and thief hole cover.

Of its service the company says: "Oceco engineers, both at headquarters and branch offices, are at your service to consult with you on evaporation and fire prevention without obligation on your part. They will be glad to explain how you can so Oceco equip that the savings this equipment effects will actually pay for it."

Parkersburg Rig & Reel Company, Parkersburg, W. Va.—This company lays stress on the necessity for studying conditions in a field or on a particular lease before installing either flow or storage tanks. Its equipment for handling oil consist of bolted tanks of regular construction as well as those of special construction known to the trade as Parkersburg Bolted Steel Tanks. Evaporation prevention accessories are manufactured for these tanks but are installed on other tanks.

To prevent splashing and churning within a flow tank, this company offers a Vertical Conductor Pipe for installation from the deck connection. It carries the crude to within 18 inches of the bottom of the tank, where it is free to seek its own level. Holes near the top of this pipe permit the escape of excess gas into the tank.

For large volumes of gas, the Parkersburg Flow Tank Stack with Pressure and Vacuum Relief Valves is offered. These are attached to the manhole dome. Butterfly valves retard escape of gas, returning condensed oil to the tank. Vacuum relief valves on each pressure release valve prevent vacuum and collapse of tank.

Where the stack and valves are not desired, the Parkersburg Flow Tank Valves are offered. This is attached to the deck of the tank. It is free of bends or projections, its bronze seat making a ground joint with valve, prevents corrosion and prevents sticking. A bronze guide allows free movement of the valve. It is supplied to operate at pressures according to requirements.

The Parkersburg Liquid Seal Pressure Gauge is designed for use on storage tanks. It has no weights, valves or movable parts. The seal is filled with kerosene, distillate and in extreme cases glycerine. The capacity is four gallons, provision being made to permit excess liquid to overflow into the tank. It is designed for placing inside the manhole dome, the top of the gauge acting as the manhole dome cover.

Where a mechanical valve is desired, this company offers the Parkersburg Pressure-Vacuum Relief Gauge. It also is placed inside the manhole dome cover. They have aluminum poppet valves, with cams, levers or other complicated parts. When desired, these valves can be supplied with a pipe outlet, flanged for 3-inch connection, to allow piping excess gases away for fuel or waste outside the fire ditch. Those with pipe outlet can be furnished with valves to release at pressures consistent with the producer's requirements.

To guard against collapse of tank deck when oil is being pumped from a tank, this company offers the Parkersburg Vacuum Breaker. It is designed to be placed on the tank deck.

The Parkersburg Self-Clamping Gauge Hole Cover is offered for use on tanks where pressures are maintained. The weighted lever is so linked

(Continued on page 105.)

Conservation of Oil

The Casing Head Latch recently designed is now being used by several large oil companies in the Mid-Continent field.

This latch is attached to any control or casing head and avoids the method of setting up four set screws on a sand cap or oil saver base when running the tools or bailer, thereby saving the waste of oil and labor. This operates by merely pushing a lever.

The Limit Plug

Casing Head Latch

The Robinson Packer Company

makes several other devices which help the oil men to conserve their production.

The Three-in-One Packer saves the gas.

The Limit Plug shuts the water off when drilled too deep into the pay sand, and is the oil country's best dry hole plug.

Write us for catalogue.

Red Packers Pack

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The Three-in-One Packer

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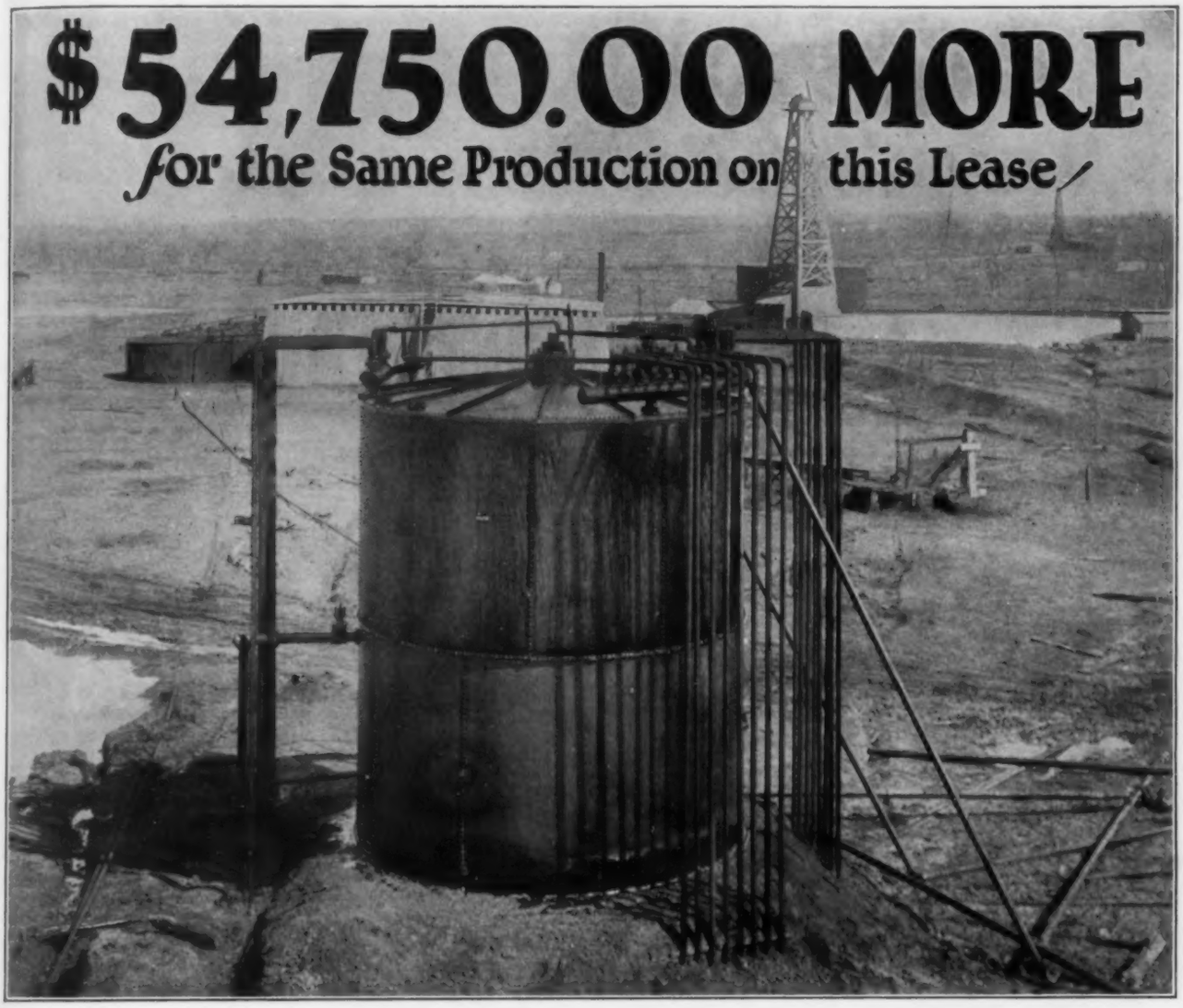
'Phone 66

Robinson Packer Co.

Store:
Tulsa, Okla.
Dial 3-8191

$54,750.00 MORE
for the Same Production on this Lease



No. 2 of a series relating actual gas-tight savings on big and little production. The installation here pictured and described is on a lease of the Coline Oil Company in the Healdton field. Installation was made by the Service Tank Company, Columbian dealer-erector at Ardmore, Oklahoma.

36 wells are pumping into this 500 barrel Columbian Vapor Pressure Tank. They are making on an average of 500 barrels.

With this vapor pressure installation the gravity was raised from 32.6° Baume to 33.9° Baume, increasing the sale price 30c per barrel.

30c more per barrel on 500 barrels is $150 more per day or $54,750 per year.

Think of it. An investment of a very few hundred dollars brings in an additional revenue of $54,750 each year. And that is not all. This installation is sending 350,000 feet of gas to the casing head plant besides running one boiler.

Whether your production is 40 barrels, 500 barrels or more, you cannot afford to be without a Columbian Vapor Pressure Tank on each lease. Made of 12 gauge steel—bottom, sides and deck. Bolted with ½-inch bolts. Trussed deck. More than ample interior reinforcement. Positive pressure and vacuum valves. A genuine Vapor Pressure Tank in every detail.

In every field there is a Columbian dealer-erector rendering over-night erection service backed by over-night factory shipping schedules and adequate stocks at strategic points. More than 40,000 Columbian Bolted Steel Tanks, ranging from 65 to 10,000 barrels, have entered the oil fields of the world.

Trade COLUMBIA TANKS FOR THE WORLD *Mark*

Truck Tanks
Oil Field Tanks
Bulk Station Tanks
Underground Tanks
Floating Tank Decks
Barrels, Buckets
Carrying Cans, Funnels
Faucets, Valves
Oil and Gasoline Pumps
Plates, Sheets, Angles

The Columbian Dealer-Erector in your field will help you with your evaporation problem. Ask him about Columbian gas-tight construction.

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321 Moose Bldg
SAN FRANCISCO, CALIF.
564 Market Street

C. R. GALLAGHER & CO.
806 Wright & Callender Bldg.
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DALLAS, TEXAS
210 Southwestern Life Bldg.
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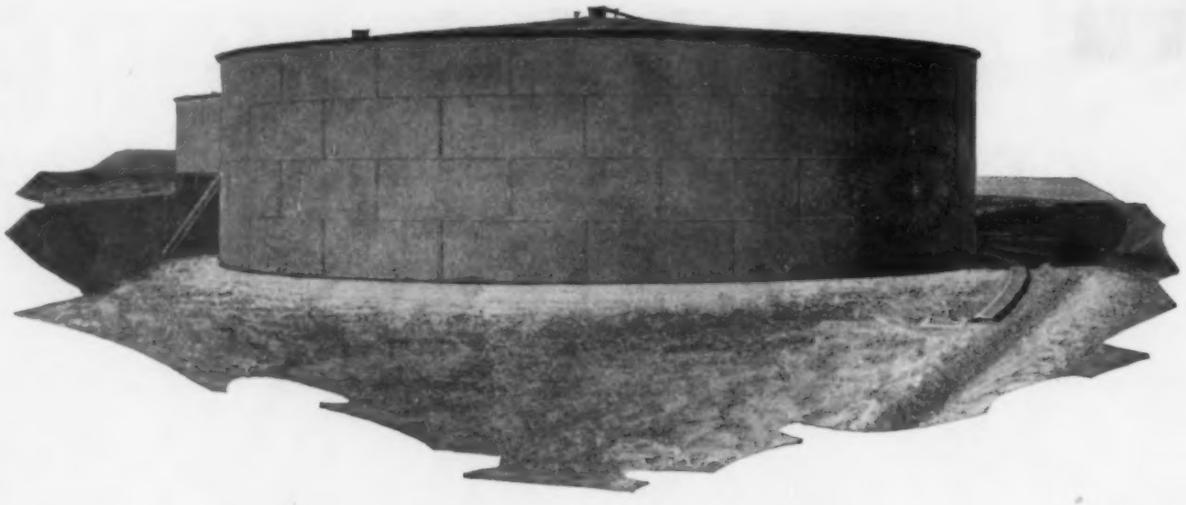
Owasso and Frisco Tracks

COLUMBIAN STEEL TANK COMPANY

EST'D 1894 TANKS FOR THE WORLD

1405-1625 WEST 12TH STREET KANSAS CITY, MISSOURI



Now Is the Time to Replace Your Wooden Roofs with Steel

Old Sol has already given us warning of the torrid days to come, when your evaporation losses will double and your fire hazard will occasion you many a sleepless night.

Now is the time to take that all-important precaution of replacing your wooden roofs with steel.

The owner of any P. I. W. installation in your district can tell you of the many records P. I. W. have established in field erection.

For quick service, phone, wire or write any of the branches named below.

THE PETROLEUM IRON WORKS CO., Sharon, Pa.

Branch Plant: Kansas City, Kansas

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Say you saw it in The Oil Weekly

FIELD NOTES AND PRODUCTION STATISTICS

Oklahoma Well Producing Below 5,000 Feet

Formation is not yet determined. Its successful completion is somewhat of an upset

By W. Lee Sloan
Staff Representative

THE successful completion of a Mid-Continent oil well at a depth of almost a mile is possibly one of the most important events in the history of this area's development. Finding an oil bearing formation below a depth heretofore outlined by Oklahoma geologists is of scientific value while the future potentialities of the find will be of a practical turn.

The K-D Oil Company found this new stratum on the White farm in the northwest of the southeast of section 1-22-4w, eight miles nothwest of Perry and twelve miles northwest of Garber, at a depth of 5145 feet. The last available reports from the well are to the effect that oil is flowing by heads at the rate of 10 to 20 barrels per hour.

The Geological Upset

The geological controversy came about on account of the fact that past research showed the presence of a granite formation below 5000 feet. This information was based upon the ultimate outcome of a well drilled by the Midco Petroleum Company in its No. 1 Hoover, in section 22-23-2w, which was abandoned at 5031 feet after going through nearly 500 feet of solid granite.

The K-D well was started on December 17, 1921, by Frank P. Kelly and associates. On January 19, 1922, a gas show was found at 695 feet. From this time until July, 1924, scout reports failed to show what progress was made on the well. Later the K-D Oil Company was organized and the well resumed drilling.

When the well found the new producing horizon operators were confident that a new sand had been found. The proverbial naming of "The Farmers Sand" and "The China Sand" came in for their part as usual. A story in the daily press was to the effect that the sand was the most perfect Wilcox ever found in Northern Oklahoma. Scientific study of the condition failed to bear this out.

Source of Oil

The oil in the well seems to be coming from the silicious ordovician lime with slight traces of the Wilcox sand. Fifty per cent of the formation present is well developed hexagonal prisms and bipyramids of quartz particles so arranged to make many openings and drusy cavities. A few Wilcox grains and a little green shale are present in the sample from the bottom of the hole, which is probably the result of cavings. It is difficult to determine from the log of the well where the Wilcox sand was encountered, but it is probably a considerable distance up the hole.

As there are 1255 feet of open hole in the well, it will be some time before a definite test can be made.

The Pumping Question

The practical interest in the well

(Continued on next page)

Log of K-D Oil Company Deep Well

The Log of the Well

The log of the K-D well shows almost all formations typical of the near development in the past up to the point where the granite formation was supposed to be present. The log from that depth to the bottom of the hole is therefore an interesting one. The following log was taken from the floor of the derrick and is considered an accurate one:

Formation	Depth
Red rock	75
Blue shale	125
Brown shale	180
Blue shale	235
Brown shale	320
Red rock	345
Blue shale	355
Red rock	365
Brown shale	525
Brown shale	320
Blue shale	575
Lime	580
Blue shale	595
Red shale	620
Lime	630
Red rock	670
Lime	675
Brown shale	690
Sand (HFW)	1060
Gas (3 M gas)	739
Lime	765
Red rock	900
Blue shale	915
Red rock	935
Sand (HFW)	960
Red rock	1025
Lime	1035
Blue shale	1045
Red rock	1100
Blue shale	1110
Red rock	1120
Lime	1125
Red rock	1250
Sand (HFW)	1295
Blue shale	1350
Lime	1355
Blue shale	1365
Lime	1375
Red rock	1400
Blue shale	1445
Sand (water)	1455
Blue shale	1490
Lime	1500
Sand	1510
Blue shale	1520
Lime	1575
Blue shale	1650
Red rock	1680
Blue shale	1820
Lime	1835
Blue shale	1905
Lime	1915
Blue shale	1940
Lime	1945
Blue shale	1955
Lime	1960
Red rock	2000
Broken sand	2015
Lime	2035
Blue shale	2045
Lime	2070
Sand	2075
Blue shale	2090
Sand and lime	2100
Sand (HFW)	2147
Lime	2173
Blue shale	2190
Sand	2185
Lime and sand	2240
Sand (water)	2270
Blue shale	2315
Lime	2355
Red rock	2460
Sand (water)	2500
Blue shale	2560
Sand (HFW)	2585
Brown shale	2600
Sand (water)	2635
Lime	2640
Sand (show oil)	2645
Black shale	2660
Blue shale	2675
Sand (show oil)	2680
Blue shale	2690
Lime and shale	2710
Lime	2750
Blue shale	2770
Lime	2775
Blue shale	2795
Sand (HFW)	2825
Blue shale	2840
Sand and lime	2865
Blue shale	2875
Lime	2880
Blue shale	2945
Sand (HFW)	2965
Blue shale	2970
Lime	2975
Sand	2980
Blue shale	3120
Sand (HFW)	3225
Blue shale	3340
Lime	3345
Sand (dry)	3370
Lime and shale	3410
Blue shale	3425
Lime	3445
Lime and shale	3787
Sandy lime	3795
Sand (show oil)	3800
Sand (HFW)	3860
Lime	3910
Shale	3945
Lime	3950
Shale	4030
Sandy lime	4100
Shale	4180
Lime	4185
Shale	4195
Lime	4200
Shale	4220
Lime	4223
Shale	4248
Lime	4258
Shale	4270
Lime	4275
Slate	4300
Shale	4320
Lime	4340
Black slate	4365
Lime	4395
Black slate	4410
Lime	4465
Black slate	4470
Lime	4490
Broken slate	4538
Lime	4543
Blue shale	4585
Lime gray	4610
Sand	4625
Shale	4645
Sand (show oil)	4650
Sand (show oil)	4657
Lime	4662
Slate	4700
Lime	4710
Shale	4730
Lime	4735
Shale	4660
Lime	4770
Blue shale	4795
Shale and shells	4805
Lime	4835
Shale	4840
Black lime	4928
Show gas in sand	4940
Lime	4970
Black lime	5000
White lime	5010
Sandy lime	5070
Black shale	5105
White lime (broken)	5115
White lime	5145
Total depth	5145

comes from the possibility of pumping oil from such a deep hole. In the event the gas pressure is insufficient to flow the well, the pumping problem will have to be considered. The unsuccessful efforts of operators in the deep sand area of the Tonkawa field is having an important bearing on this situation while the results attained by California operators in pumping wells from a deep sand is in favor of the optimistic group.

It is a fact that the deep California wells are started with a large surface hole and the well is completed with hole large enough to permit the installation of special pumping equipment. But Oklahoma deep wells were not designed to fit the pumping equipment. The finding of a deep oil-bearing stratum was about the only consideration.

In the event the K-D well exhausts its gas pressure to such an extent that pumping equipment will have to be installed, the experiments will be interesting. A complete revision of present methods of pumping may result from these experiments.

The discovery of the K-D well has developed an unusual amount of interest in the territory between the well and the old Billings pool in township 23, range 2 west. Since the discovery many tracts of acreage on all sides of the new well have been sold at from $75 to $300 per acre. Among the most prominent buyers of tracts are the Amerada Petroleum Corporation, the northeast of section 36-23-2w; Champlin Refining Company, the north half of the southwest of 36-23-2w and the south half of the southeast of 35-23-2w; Carter Oil Company, the north half of the southeast of 35-23-2w; Mid-Continent Petroleum Corporation, the northeast of 35-23-2w.

Barney Carter Field Not Likely of Large Proportions

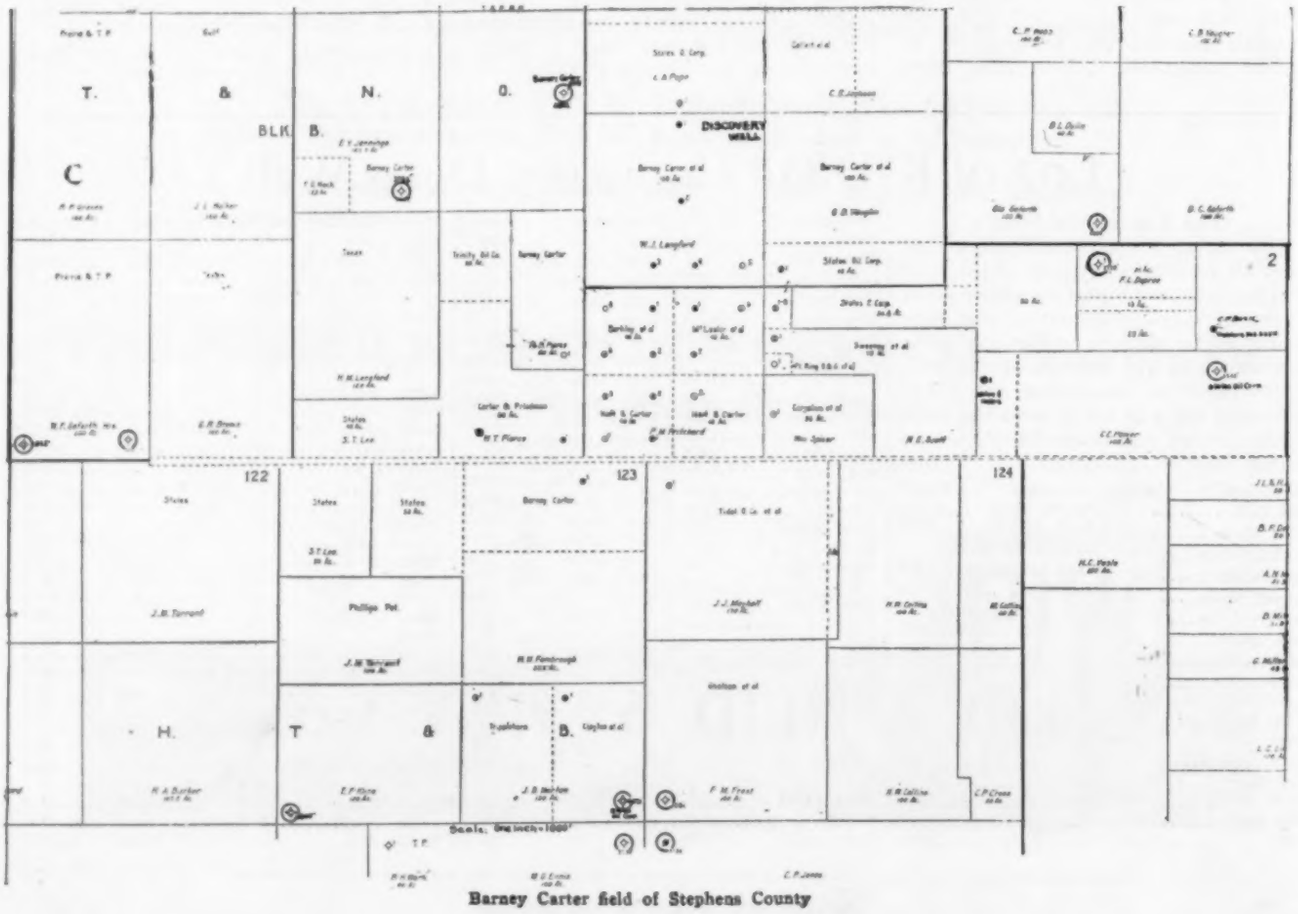
Ranger, Texas.—The rapid decline of producing wells in the Barney Carter field in lower Stephens County and completion of two failures last week to the southeast and southwest of production minimizes the possibilities of this area reaching large proportions, and indications are that the production will be confined to a narrow strip running north and south. This field averaged 3360 barrels daily during the past week from five wells, as compared to 5560 barrels daily one week previous, and 8650 barrels three weeks ago. The completion of two wells on the south end of the field late last week with a combined initial flow of about 800 barrels has since bolstered the output.

Corzelius Brothers and associates' Wm. Spicer 1, located about 1500 feet southeast of production failed to make a well in the regular Lake Eastland sand pay at 3550 feet, and is drilling below 3600 feet to try for the Ranger Pritchard 3, located about one thousand, while Barkley-Little-Six et al's sand feet southwest of production is also to drill to the Ranger pay after showing a little oil and traces of gas in sand at 3538-42 feet. More than 30 drilling tests and rigs are listed on the drilling reports of this field, and most of the close in leases are held by individuals and independent companies.

R. B. Pender and associates' semi-wildcat test on the A. Rasmussen farm, northwest quarter of section 46, T. & P. Ry. survey, block 3, Palo Pinto County, made an initial flow of 500 barrels with five million cubic feet of gas after drilling through sandy-lime pay at 3547-70 feet to a total depth of 3600 feet. This crude commands the top gravity schedule price, and a connection has been made by the Prairie.

Phillips Petroleum Company's J. A. Parish 4, located in the southeast quarter of section 47, and southwest of the Ibex field in Shackelford County, made an initial flow of 690 barrels natural after drilling eight feet of sand to a total depth of 2106 feet. This lease and one oil producer was purchased some months ago by Phillips from Humble along with a large quantity of proven and semi-proven leases in the Ibex area.

Tom N. Davey, export buyer for the Atlantic Refining Company in the Mid-Continent district with headquarters at Dallas, went through an operation for appendicitis successfully last week in a Dallas hospital, and is counting the days when he can go back to his job in dishing out gasoline orders to refiners.



Barney Carter field of Stephens County

TRANSIT

Red Head Tongs

ALONG with Transit Pumps for every oil country purpose, we have Transit Pipe Line Tools of exceptional quality.

On jobs where Transit Red Head Tongs are used with other kinds, workmen have been known to argue heatedly over who shall be obliged to use the "Dead Heads", and who shall have the privilege of using the Red Heads.

Ask at the Frick-Reid Store in your field for further information about Transit Pumps and Pipe Line Tools.

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FRICK-REID SUPPLY CO.
Tulsa, Okla. Pittsburgh, Pa.
In Oil Country Equipment—the Most HUMAN Organization in America

East of the Mississippi—Frick and Lindsay Co.

Amerada Has Simplified System for Lease Record

(*Continued from page 31*)

calls for $10,000 in cash and $15,000 in oil, only the $10,000 is shown in order to simplify the method used in the event the well is not a producer. Under "Special" is shown such considerations as $15,000 oil bonus. The date on which this lease and contract was recorded in the office of the county clerk of Seminole County is also shown. Directly under this part of the form is the "Remarks" column and in this part is given the reason for the purchase of the lease. As "The Gypsy Oil Company is drilling a well as a west offset" or "Approved by our Geological Department". Such other remarks as are necessary are also placed in the "Remarks" column.

The Rental Dates

To the lower left is the rental dates. Taking the date of the lease above, the first rental would be due one year after the date on which the lease was assigned. Each year thereafter until the lease expires is placed in this column. The expiration rental is numbered in red ink to show that the rental is about to expire. The rental department calls this expiration date to the attention of the land department and the head of that department then renews or releases the lease.

The tab system for filing this form in the large lease books is very simple. The original blank form has all the months of the year on the margin. In the event the lease rental is due in June, the remaining months are cut away with a pair of scissors, leaving only the due month on the margin. In the event the rental is due semi-annually, the two months of the year when the rental is to be paid is left on this margin.

The Supplementary List

Thirty days before the rentals are due, a list of all rentals is taken from this book and transferred to another lease rental record. This second form is much like the one being used by all companies and we are not showing an illustration of it. It is from this second record that the request for check is made to the accounting department. When the request is made the lease is checked. When the check returns to the rental department it is noted in this book. The date on which the check went forward is shown and the return receipt date has a place in this second form. In the event it is a joint interest lease and the Amerada is paying the rental, there is a place to show the joint interest holder and a statement for his part of the rental payment is made from this record.

It is a difficult matter to paint a word picture of such a system as is herein outlined, but with the accompanying form shown it should be an easy matter for any company or individual familiar with the payments of lease rentals to understand this system thoroughly.

Still Unable to Control Montague County Gasser

Wichita Falls, Texas.—Continuous efforts to lubricate off the gas flow in the Humphreys Corporation's shallow gasser on the W. W. Jones farm in upper Montague County have been futile. This well is making about 50,000,000 cubic feet of dry gas from broken sand at 498-705 feet, and the gas flow broke out on the side of a hill several hundred feet from the derrick when cementing a string of 6⅝-inch casing near the bottom of the hole at 826 feet, with only 88 feet of 15½-inch surface easing. The well has been flowing wild for six weeks, and the services of the U. S. Bureau of Mines were enlisted to devise some means of re-gaining control of the gas flow. Tons of mud, cut rope, cotton seed, and miscellaneous debris have been pumped into the hole to try and clog the large channel established in the porous sands allowing the gas to feed craters on the hillside, while unsuccessful efforts have been made to seal the craters.

When You Save Vapors Profits Fall into Line

(*Continued from page 63*)

turn goes through the steel roof and brings the oil to a temperature in excess of that within a tank with a clean roof.

The color of paint on a tank influences the temperature inside the tank. This is shown by charts accompanying another article in this section and is one of the latest investigations of the United States Bureau of Mines.

Nuts on a bolted tank roof may need tightening frequently. Frequent tests will tell what the equipment is doing.

An effective method of determining whether a tank is holding vapors or not is to apply the soap and water test. After cleaning a tank roof, soapy water poured over it, will reveal leaks immediately, for bubbles will appear around seams and joints that are not holding.

It is common practice to run lines across the tops of lease tanks. This forces the tanks to support weight in excess of that for which they were built. Where oil or gas flow through these lines under pressure, still further strain is put on the tank roof and especially on the connections between pipe and roof. These connections are likely to show leaks from this strain.

Live steam is an effective agent for cleaning the roof of a tank.

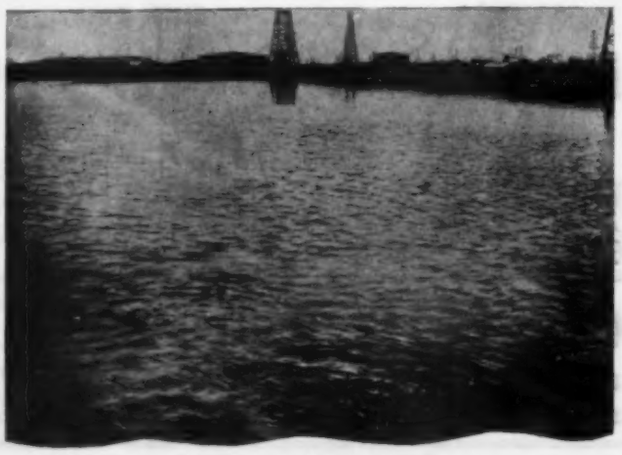
The maintenance of lease tankage gets down to a personal problem. The man on the lease is the crux of the proposition. He can make or break any equipment.

Before criticizing him for neglect of the new equipment but recently put under his care, it may be well to remember that for 60 years he has been schooled in the opinion that efforts to prevent evaporation were silly. The way executives bought open tankage was evidence of that.

Now with only four years of any concerted effort to provide equipment that will save vapors and money, it is too much to expect men to forget their loose ways over night.

But somewhere between the manufacturer and the lease holder there is a means of bringing the lease worker to know the importance of keeping thief holes and gauge covers closed. These two represent the neglect that tankage may get on a lease.

When good equipment is properly used, evaporation is reduced to a figure so low it is negligible. That is the ideal to work for.



Open earthen storage is good to look upon but a sorry place for crude oil.

THE *STRONGEST* UNDERREAMER

Insufficient strength has been the besetting sin of underreamers. GUIBERSON set out to build an underreamer as strong as a drilling bit—and succeeded.

It has been the record of this underreamer that it handles difficult jobs after others fail. Note its heavy steel body, in no sense a hollow cylinder—and its strong, oversize cutters. If you've never used the GUIBERSON you owe it to yourself to try it. Fully patented.

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GUIBERSON

BETTER BE SAFE THAN SORRY

Say you saw it in The Oil Weekly

Intensive Drilling in Prospect For Crocket County Area

By H. H. King

Staff Representative

Fort Worth, Texas.—The completion of the Crockett County wildcat oil producer brought in recently by the World Company Interests and later sold to Humble and Marland Oil Company of Texas for a total consideration of $1,400,000 was underway early this week after the titles to the properties were approved by the buyers, and about 110 barrels of oil was swabbed from the hole Monday while lowering the fluid to fish out lost swab. Humble will have charge of operating the properties acquired from the World Company Interests, and present plans are to deepen the hole and determine the production possibilities of the sandy-lime pay before the close of the week. The well has been flowing by heads at an average rate of 25 barrels daily since water was shut off from upper horizons by lowering casing with packer, and despite this comparatively small production major companies and independent operators have purchased leases and royalties during the past two weeks representing a total expenditure of more than $5,000,000 in cash and oil payments.

Although Humble took charge of the discovery well on June 10 when contracts were signed to purchase the World Company Interests, which include the Marathon Fold Drilling and Leasing Clubs and personal interests of C. R. Bunker and Frank Greene, the deal was not closed until Monday of this week when Humble and Marland accepted title proof and turned over a check for $350,000 to C. R. Bunker. This sum represents the cash payment, and the payments from oil production are to be made as follows: $350,000 payable from seven-sixteenths of the first oil produced; $350,000 payable from seven-thirty-seconds of the next oil produced; and $350,000 payable out of one-eighth of the production obtained after the above payments have been made. These oil payments will undoubtedly be strung out over a period of several years or more, and represent three-fourths of the purchase price of the well and surrounding leases.

In connection with the purchase of the Crockett County discovery well, Humble and Marland have contracted to drill four additional tests in as many different directions from present production, and the first of this group will be started shortly, with the rest following in rotation. The buyers also agree to protect the leases from all offsets. Besides this major purchase, Humble and Marland have acquired approximately 2500 acres of general lease protection on a 50-50 basis, and Marland will have charge of the development work.

The unusual interest taken in the initial performance of the Crockett County discovery well by major companies and active independent operators, is largely due to the record made to date by the Big Lake field, located across the county line in lower Reagan County a distance of about 15 miles to the northwest. The Big Lake field was discovered with an 80 barrel flowing well near the center of a block of 64 square miles, and the owners made strenuous efforts to gain the interest of major companies to become interested in the block, until Pittsburgh parties agreed to take three-quarter interest in sixteen sections; re-imburse the discoverers of the oil for their expense, and drill four free wells. These 16 sections have since proven to be the heart of the Big Lake field.

In the event a big producer develops from deepening the Crockett County well from its present depth of 2647 feet, a whirlwind drilling campaign will follow on short notice, as the close-in acreage is divided in small tracts and held by companies that paid big prices with expectations of going into a large development campaign. A market for the oil will undoubtedly be a serious problem until sufficient production is available to attract additional pipe lines, as Humble's eight-inch line serving the Big Lake field is running at capacity. The Orietn Railroad, which is the only line within 60 miles, can be of some assistance in moving crude from the field, but it is about 11 miles north of the discovery well. The Crockett County crude tests 32 gravity at the well, but may improve in grade when more sandy-lime pay is taken by the drill.

The Big Lake field averaged 30,180 barrels daily during the past week from 30 flowing and pumping wells, and the proven field was widened about one-quarter mile to the east when Big Lake Company's University 29, located in southeast corner of section 25, block 9, showed oil in hole after drilling five feet in the pay to 3026 feet. This location was generally conceded to be in doubtful territory, and only a small well was expected at the most. The top of the lime was logged at 2910 feet.

Gulf Production Company is to make a second try for production on University Land in section 1, block 1, about six miles due south of the Big Lake field, and is rigging up to drill in the southeast quarter of the section after making a failure at 3320 feet in the northwest corner of the same section. Gulf is also moving rig about one mile north of a 3910-foot failure completed recently on the L. S. McDowell ranch in Glasscock County to drill in the southwest corner of southeast quarter of section 30, block 34, township 2-S. Deep Rock Oil Company of Fort Worth and Tulsa are to drill a wildcat on the Hyman ranch, center southeast quarter section 88, block 29, W. & N. W. survey, Howard County. The northwest corner of Reagan County will be given a test by the wildcat to be drilled by Rook & Zimmerman on the M. E. Hill land, located in the center of the northeast quarter of section 8, T. & P. survey, block 37, Midland County.

H. B. McGuire et al's C. W. Merchant 1, located in upper Reagan County in section 12, L. S. & V. Ry. survey, block "A", is preparing to abandon as failure below 3500 feet, after encountering a slight show of oil in sandy-lime pay at 3129-31 feet.

Extensions Recorded in North Texas Wildcats

Wichita Falls, Texas.—Prairie Oil and Gas Company's wildcat test on the Waggoner ranch in Wilbarger County is showing for a well after drilling into the top of the sand pay at 2320 feet. This test is located near the west center of section 45, block 4, and about two miles northwest of a wildcat oil pumper from 2300-foot sand in section 42. Prairie acquired this wildcat and acreage last month through the purchase of the Shamrock Oil Company's properties, and had reached the deepest known oil producing horizon in Wilbarger County when oil sand was encountered. The hole is credited with having filled about 1600 feet with oil, with good gas pressure, after drilling about one foot in. Casing is being lowered from 2240 feet to make a production test before drilling deeper. The South Vernon pool added another flowing well from the deep pay when Humble's Stephens 25 made 350 barrels natural from broken sand at 2286-2306 feet.

The productive limits of the Harmel field in southwest Archer County were extended a short distance to the east last week when Murchison-Fain and Marland Oil Company's Echols 1-B, located on the east line of section 2405 tested good for about 50 barrels from regular Harmel pay sand at 1265-74 feet. A diamond core drill test was made of the pay on a twin location prior to the starting of this outside test. Barkley and Meadows' L. F. Wilson 7, located southwest of the original Barkley-Maedows pool in section 88, A. T. N. C. lands, is swabbing 65 barrels daily from sand at 1520-25 feet, and proves up a number of new locations.

The Olney pool, located in upper Young County about one mile north of Olney, scored its first big producer last week when Humble's I. E. Mercer 1 swabbed and flowed 590 barrels during the first 20 hours from oil sand at 1059-78 feet.

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CRUDE OIL PRICE QUOTATIONS

Crude Price Changes

June 23—Shreveport El Dorado Pipe Line Company today announced a 10-cent raise on Smackover heavy, making the new price 90 cents.

Current Postings

EASTERN STATES

	June 26 1925	June 26 1924
New York Transit	$3.90	$4.25
Bradford (Pa.)	3.90	4.25
Gains	3.45	...
Other Pa. Grades	3.75	3.75
Cabel	2.35	1.95
Ragland	1.30	1.10
Corning	2.05	2.15
Somerset, medium	2.45	2.05
Somerset, light	2.60	2.25

CENTRAL STATES

Illinois	$2.02	$2.07
Idniana	2.03	2.08
North Lima	2.23	2.28
South Lima	2.23	2.28
Plymouth	1.55	1.45
Princeton	2.02	2.07
Waterloo	1.10	1.55
Wooster	2.15	2.15

WESTERN KENTUCKY

Posted by Indian Refining Company for crude from Allen, Warren, Franklin, Davies, Barren, Cumberland and Monroe Counties

36 and above	2.05	...
33 to 35.9	1.95	...
32.9 and below	1.85	...

CALIFORNIA

(Crude oil prices at well)

Los Angeles and Orange Counties

14 to 19.9 gravity	$1.25	$1.00
20 to 20.9 gravity	1.27	1.01
21 to 21.9 gravity	1.30	1.02
22 to 22.9 gravity	1.33	1.03
23 to 23.9 gravity	1.36	1.05
24 to 24.9 gravity	1.40	1.07
25 to 25.9 gravity	1.44	1.10
26 to 26.9 gravity	1.48	1.13
27 to 27.9 gravity	1.52	1.16
28 to 28.9 gravity	1.56	1.19
29 to 29.9 gravity	1.60	1.22
30 to 30.9 gravity	1.64	1.25
31 to 31.9 gravity	1.68	1.28
32 to 32.9 gravity	1.72	1.31
33 to 33.9 gravity	1.76	1.34
34 to 34.9 gravity	1.80	1.37
35 gravity and above	1.85	1.40
Fuel Oil	1.65	1.40

Rosecrans Field

36 to 36.9 gravity	$1.92
37 to 37.9 gravity	2.00
38 to 38.9 gravity	2.08
39 to 39.9 gravity	2.16
40 to 40.9 gravity	2.24
41 to 41.9 gravity	2.32
42 and above	2.40

MID-CONTINENT

(Prairie Prices)

	June 26 1925	June 26 1924
Below 30 gravity	1.35	$ ...
30 to 32.9 gravity	1.55	...
33 to 35.9 gravity	1.80	...
36 to 38.9 gravity	2.00	...
39 to 41.9 gravity	2.25	...
42 and above	2.35	...

(Sinclair Prices)

Below 30 gravity	1.35	...
30 to 32.9 gravity	1.55	...
33 to 35.9 gravity	1.80	...
36 to 38.9 gravity	1.95	...
39 to 41.5 gravity	2.25	...
41.6 and above	2.35	...

(Texas Company Prices)

Below 30 gravity	1.35	...
30 to 32.9 gravity	1.55	...
33 to 35.9 gravity	1.80	...
36 to 38.9 gravity	2.00	...
39 to 41.5 gravity	2.25	...
42 and above	2.35	...

(Magnolia Petroleum Co.)

Under 28 gravity	1.00	...
28 to 30.9 gravity	1.35	...
31 to 32.9 gravity	1.55	...
33 to 35.9 gravity	1.80	...
36 to 38.9 gravity	2.00	...
39 to 41.9 gravity	2.25	...
42 and above	2.35	...
Corsicana, light	2.00	...
Corsicana, heavy	1.00	...
Mexia	2.00	...
Thrall	1.00	...
Wortham	2.00	...

NORTH CENTRAL TEXAS

(Humble Oil & Refining Co.)

Corsicana, light (Powell)	2.00	2.00
Mexia	2.00	2.00
Currie	2.00	2.25
Richland	2.00	...
Wortham	2.00	...

RANGER

(Humble Oil & Ref. Co.)

30 and below	$1.35	...
30 to 32.9	1.55	...
33 to 35.9	1.80	...
36 to 38.9	2.00	...
39 to 41.9	2.25	...
42 and above	2.35	...

WICHITA AND ARCHER COUNTIES

(Texas)

(Humble Oil & Ref. Co.)

30 and below	1.35	...
30 to 32.9	1.55	...
33 to 35.9	1.80	...
36 to 38.9	2.00	...
39 to 41.9	2.25	...
42 and above	2.35	...
Moran Crude		
30 and below	1.35	...
30 to 32.9	1.55	...
33 to 35.9	1.80	...
36 and above	2.00	...
Lytton Springs (Lockhart)	2.00	...

SOUTH TEXAS

Mirando (Texpata)	1.00	.80
Mirando (Magnolia)	1.00	...

SOMERSET

(Grayburg Pipe Line Company)

30 and below	1.35	...
30 to 32.9	1.55	...
33 to 35.9	1.80	...
36 to 38.9	2.00	...
39 to 41.9	2.25	...
42 and above	2.35	...

GULF COAST

Grade "A"	1.75	2.00
Grade "B" at Blue Ridge, Hull and Pierce Junction	1.50	1.70
Big Lake (Reagan County)		
36 to 38.9	$2.00	...
39 and above	2.25	...

LULING

Based on Contract	1.15	...
Lockhart	3.00	...

LOUISIANA-ARKANSAS

Caddo

	June 26 1925	June 26 1924
38 gravity and above	2.05	...
35 to 37.9 gravity	1.95	...
32 to 34.9 gravity	1.85	...
Below 32 gravity	1.70	...
Homer		
35 gravity and above	1.80	...
33 to 34.9 gravity	1.70	...
31 to 32.9 gravity	1.60	...
Below 31 gravity	1.45	...

COTTON VALLEY

All grades	1.00	...
Haynesville		
33 gravity and above	1.70	...
Below 33 gravity	1.60	...
Bull Bayou		
38 gravity and above	1.85	1.80
35 gravity to 37.9	1.70	1.65
32 to 34.9 gravity	1.55	1.50
De Soto crude	1.90	1.85
Crichton	1.70	1.65
Bellevue	1.75	1.75
Jennings	1.75	2.00
Vinton	1.75	2.00
Edgerly crude	1.75	1.80
Smackover		
Louisiana, Atlantic, Shreveport-Eldorado		
28 and above	1.35	...
27 to 27.9	1.30	...
26 to 26.9	1.25	...
25 to 25.9	1.20	...
24 to 24.9	1.10	...
Below 24	.90	...
The Texas Company		
26 gravity and above	1.30	...
24 to 25.9	1.00	...
Below 24	.80	...
Standard Gulf		
27 and above	1.30	...
26 to 26.9	1.25	...
25 to 25.9	1.20	...
24 to 24.9	1.10	...
Below 24	.80	...
El Dorado		
33 gravity and above	1.70	...
Below 33 gravity	1.60	...
East Field (Calion)	.80	...
Stephens District		
26 gravity and above	1.60	...
Below 26 gravity	1.40	...

WYOMING-MONTANA

Wyoming

Byron	2.25	...
Ferris	1.30	...
Elk Basin	2.15	1.95
Grass Creek	2.15	1.95
Rock Creek	2.00	1.70
Lost Soldier	1.35	...
Lance Creek	2.15	1.90
Mule Creek	1.25	...
Notches	.65	...
Big Muddy	2.00	1.50
Salt Creek	2.00	1.60
Osage	2.15	1.90
Hamilton Dome	1.80	1.55
Pilot Butte	1.75	1.25
Torchlight-Greybull	2.15	1.90
Lander	.85	.70
Montana		
Sunburst	1.40	1.05
Cat Creek	2.15	1.95

NEW MEXICO

Hogback	2.20	...

CANADIAN CRUDE

Oil Springs	2.70	2.73
Petrolia	2.63	2.68

*Bounty on Canadian crude is ¾ cents per gallon, or 26¼ cents per barrel.

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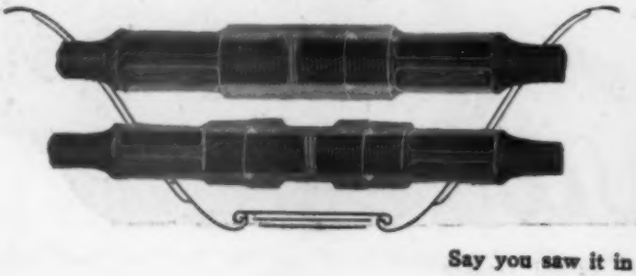

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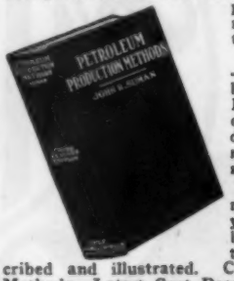

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Smackover Production Off While Wells Await Pumps

El Dorado, Ark.—With another deep sand proven productive over an area nearly four miles wide, Smackover operators are not alarmed at the continued decline of second sand production; and there is every indication that the great drilling boom may be carried on in its present magnitude through the year. It is, of course, still too early to hazard a guess as to whether or not the newly-found sand may be as fertile as the shallower reservoirs, as only four wells have been finished at the 2585-foot level. However, these four completions appear to be better wells than were the discovery wells in the shallower sands; and they tend to prove as productive from the third oil-bearing sand, a rectangular area three and three-quarter miles wide, east and west, by two and one-half miles, north and south.

The Federal Petroleum Company's No. 7 well on the Ballard lease, in the southwest quarter of the southeast quarter of section 10-16-15, a recent completion, is flowing at the rate of 3000 barrels of fluid per day from five feet of sand at a total depth of 2645 feet. It is making 17 gravity oil, with about 25 per cent salt water and b. s. The Texas Pacific Coal and Oil Company's Blossom sand discovery well, in the southeast quarter of the northwest quarter of section 33-15-15, is flowing at the rate of 725 barrels per day after having been drilled four feet deeper with standard tools. Its total depth is logged at 2587 feet. The Laurel Oil and Gas Company's Houston well, in the northeast quarter of the southeast quarter of section 12-16-16, is said to be making small irregular heads of oil from three feet of sand at a total depth of 2609 feet.

The Humble Oil and Refining Company, Crawford & Sebastian, Lion Oil & Refining Company, and Page and others are all drilling below the 2500-foot level in wells scattered through sections 6, 7, 10, and 17, of township 16-15; and the Gulf Refining Company and the Houston Oil Company are preparing to make third-sand tests in wells located in sections 34 and 27, of township 15-15, respectively. Blossom sand completions may be expected in rapid succession from now on.

The Liberty Oil and Gas Company is reaming to set a string of casing above a sand which showed both oil and gas at 2800 feet in the Davis wildcat, in section 31-16-14, about three miles southeast from the boundary of the shallow sand production.

Production of heavy oil at Smackover shows a decline to around 245,000 barrels per day, as at present, including 202,000 barrels of deep sand oil and 43,000 barrels of shallow sand oil. Sixty-five deep wells have been put on the beam, and 45 wells are being blown with air or gas pressure. A total of 135 wells have gone dead, and are awaiting pumping equipment.

Eddie Jones has set a string of 5 3/16 inch casing at 2300 feet in his Wilson wildcat, in section 26-15-18, about five miles west of the nearest production and Louann and about eight miles east of the Stephens field. An oil-bearing sand is recorded on the driller's log at 2307-13 feet. A recent test showed salt water, thought to have come from a leak in the 6⅝-inch casing. The Buffalo Oil Company has set six-inch casing at 2115 feet in its Morgan wildcat, in section 22-15-19, about two miles east of the Stephens field. This well is showing gas, heavy oil, and salt water from between the ten-inch and six-inch casings, as happened in two or three wells drilled in the Stephens field.

The Humble Oil & Refining Company has abandoned its Taylor test well, in section 11-15-22, Nevada County, located about seven miles southwest from the Irma field. The Taylor well was drilled to a total depth of 1327 feet. White and others are drilling at 950 feet in their Hamilton wildcat, in section 34-14-22, of the same general vicinity. Steele and others have hauled out a derrick pattern for a wildcat to be drilled on the Fincher property, in section 9-15-22.

Devil's Steel Hand

An Experience Worth Over Five Hundred Dollars

In drilling their No. 4. Gummerall at Eastland, Texas, the States Oil Corporation broke the box off a 5½-inch stem in 12½-inch hole. They pounded the top of the box awhile and jumped the pin. The box fouled in the hole so that they could not get a socket to catch anything.

They then went in with an 8-inch bit and drilled down alongside the 12½-inch bit. Then the box was tickled off down into the 8-inch hole. A socket was run and caught the 12½-inch bit and they jarred it out alongside of the box. This forced the box tight against the back side of the 8-inch hole, making the hole 12 inches one way and about 16 inches the other way. A Steel Hand, with two fingers, which tool would go through the 12-inch hole and open up to the 16-inch was used to work the box out into the hole. The box was then picked up with a regular four prong 12½-inch Devil's Steel Hand.

Upon bringing this box out. Mr. John W. Knox, Sr., of the West Virginia Drilling Company, the contractors for this well, stated that he would not have the box back in the hole and be without the use of a Devil's Steel Hand to take it out again for $500.00.

For further details, write

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DEVIL'S STEEL HAND and PITCHFORK

AVERAGE DAILY PRODUCTION FOR U.S.

Mountain States

Pipe line runs from all fields in the Rocky Mountain region for the past and previous weeks follow:

WYOMING

	Past Week	Prev. Week
Salt Creek	53,190	48,440
Grass Creek	4,750	4,675
Lost Soldier	4,750	4,360
Big Muddy	3,320	3,265
Rock Creek	3,000	3,025
Teapot	1,645	2,140
Poison Spider	1,125	1,100
Mule Creek	825	820
Elk Basin	815	850
Lance Creek	810	390
Hamilton Dome	700	435
Osage	375	450
Lander	350	315
Ferris	165	150
Greybull	130	100
Wyoming totals	75,950	70,515

COLORADO

Craig	700	725
Florence	245	250
Fort Collins	165	420
Tow Creek	120	125
Rangely	100	110
Boulder	30	35
Colorado totals	1,360	1,665

MONTANA

Cat Creek	3,640	3,270
Kevin-Sunburst	8,785	6,285
Montana totals	12,425	9,555

NEW MEXICO

Artesia	1,500	1,280
Hogback	535	520
Rattlesnake	460	335
New Mexico totals	2,495	2,135
Miscellaneous	200	200
Grand Totals	92,430	84,070

Kansas

Greenwood	28,540	28,690
Rainbow Bend	19,760	20,980
Elderado	14,000	14,050
Elbing & Peabody	5,635	5,640
Augusta & Douglas	3,140	3,150
Fox-Bush	2,935	2,940
Blankenship	2,345	2,350
Florence & Covert	1,980	1,985
Other fields	21,945	21,890
Totals	100,280	101,675

California

Los Angeles, Calif., June 20.—Daily average production of the California fields the past week, compared with the previous week, with number of producing wells in several fields, was about as follows:

	Past Week	No. Prod. Wells	Prev. Week
Long Beach	108,500	520	107,000
Inglewood	63,000	64	50,000
Santa Fe Springs	53,500	345	54,000
Huntington Beach	45,000	305	46,000
Torrance	38,000	560	37,500
Dominguez	33,000	58	32,000
Rosecrans	20,500	49	22,500
Others	282,000		282,000
Totals	643,500		631,000

Oklahoma

Field—	Past Week	Prev. Week
Tonkawa	58,805	60,950
Burbank	57,990	58,240
Bristow	45,100	45,000
Cromwell	38,690	39,245
Osage (outside Burbank)	35,875	36,000
Okmulgee	25,170	25,185
Cushing	20,980	21,000
Wewoka	20,920	20,490
Gilcrease-Papoose	18,750	19,980
Hewitt	14,800	14,855
Garber	11,420	11,340
Otoe	7,750	7,810
Stroud	4,720	4,870
Braman	4,510	4,315
Other fields	83,765	83,290
Totals	449,245	452,570

Louisiana

Haynesville	13,075	13 060
Cotton Valley	11,600	11,500
Caddo Light	9,150	8,815
Vinton	7,325	8,850
Homer	6,500	6,600
Bull Bayou	3,990	4,000
Bellevue	3,315	3,400
Caddo Heavy	2,375	2 025
Evangeline	900	900
Elm Grove	725	750
Edgerly	550	540
Lockport (Lake Charles)	210	150
Anse La Butte	20	20
Totals	59,735	60,610

Arkansas

Smackover heavy	282,080	320,905
Smackover light	29,340	28,650
El Dorado	8,215	8,210
Stephens	1,850	1,815
Irma	1,400	1,300
Totals	322,885	360,880

Texas

NORTH-CENTRAL

	Past Week	Prev. Week
Corsicana-Powell	50,835	51,005
Wortham	38,000	41,100
Archer County	38,320	37,965
Big Lake-Reagan County	30,180	29,905
Mexia	20,100	20 000
Stephens County	17,500	19,465
Electra	17,095	16,970
Burkburnett	14,735	14,945
Young County	10,615	10,860
Eastland County	10,415	10,405
So. Vernon-Wilbarger County	8,995	9,005
Richland	4,450	4 650
K-M-A and Iowa Park	3,885	4,280
Callahan County	3,785	3,860
Moran-Shackelford County	3,725	3,735
Panhandle District	3,625	3,675
Brown County	2,175	2,185
Mitchell County	2,290	2,310
Currie	1,375	1 400
Palo Pinto County	560	560
Petrolia-Clay County	475	415
Montague County	170	165
Throckmorton County	85	90
Coleman County	90	85
Scurry County	75	75
Thrall-Williamson County	55	60
Jack County	35	30
Totals	283,645	289,200

GULF COAST

Hull	20,050	21,400
South Liberty	18,050	21,760
Orange	13,575	13,550
West Columbia	12,175	11,575
Goose Creek	11,075	11,225
Humble	4,400	4 910
Sour Lake	4,260	4,150
Blue Ridge	1,080	1,150
Saratoga	1,740	1,690
Batson	1.375	1,495
Damon Mound	1,200	1,150
Spindle Top	1,100	1,130
High Island	625	675
Pierce Junction	335	595
Big Creek	475	500
Barbers Hill	130	130
Markham	75	85
Nacogdoches	30	30
Totals	91,750	97 200
Luling	24,895	26,800
Mirando	9,600	11,000
Lockhart (Lytton Springs)	11,610	12,150
Somerset	2,870	2,890
*Miscellaneous South Texas	670	690
Totals	49,645	53,530
Totals Texas	425,040	439,930

*Includes Callahan, Rockdale and Minerva.

Condensed U. S. Production for Twelve Months

(Stated in Barrels)

This table is compiled each week by The OIL WEEKLY, and shows daily production average for each state or section.

Daily average for month	*Mid-Continent	North Central Texas	Texas Coastal	Texas Total	Kansas	Okla.	Louisiana	Eastern States	Wyo. Mont. Colo. New Mexico	Calif.	Ark.	Total
March	762,684	284,874	78,567	388,221	69,864	407,946	55,783	97,800	128,352	650,790	119,869	1,917,023
April	777,590	276,595	76,755	380,005	71,015	429,980	54,740	101,250	127,700	649,825	128,750	1,943,270
May	763,320	267,475	74,175	374,915	71,490	424,355	60,655	103,800	127,770	640,930	148,630	1,952,543
June	799,230	260,785	74,355	375,310	74,265	464,175	62,660	105,750	125,735	628,400	157,165	1,993,465
July	815,830	254,665	75,445	378,365	81,545	479,620	63,855	107,175	124,305	620,175	148,655	2,003,695
August	861,640	254,520	75,700	377,045	85,765	521,355	62,595	107,000	123,895	619,200	142,740	2,037,890
September	886,650	253,243	76,953	366,197	86,758	546,647	62,162	107,622	117,345	611,500	131,343	2,029,580
October	855,823	247,222	75,713	359,861	86,884	521,717	62,493	106,600	107,270	605,060	123,235	1,972,902
November	851,733	248,467	71,648	369,621	86,031	517,237	66,117	106,375	91,205	594,000	119,893	1,950,478
December	873,344	267,065	65,437	385,410	88,065	518,213	59,602	106,873	83,472	606,875	111,402	1,959,917
January	906,160	334,305	65,065	448,900	88,390	483,465	56,520	106,200	78,435	602,600	106,280	1,970,350
February	861,130	292,796	63,885	405,195	88,790	479,545	56,825	105,125	87,710	598,375	106,085	1,927,680
March	839,200	301,795	83,800	434,410	84,965	452,440	58,030	100,550	90,900	605,775	112,425	1,939,520
April	836,110	294,040	94,215	435,035	84,360	457,710	57,700	98,250	91,845	602,800	209,840	2,037,545
May	835,350	295,695	100,205	447,080	93,610	446,040	60,945	101,140	91,492	609,200	419,770	2,269,280
June 6	847,275	291,870	98,110	442,240	100,895	454,510	60,625	103,400	89,340	632,500	436,910	2,320,420
June 13	843,445	289,200	97,200	439,930	101,675	452,570	60,610	104,000	84,070	631,000	360,880	2,234,735
June 20	833,170	283,645	91,750	425,040	100,280	449,245	59,735	103,800	92,430	643,500	322,885	2,196,915

*Includes North Central Texas, Kansas, Oklahoma.

NOTE—Wortham, Corsicana-Powell and Mexia production included in North Central Texas.

COMPLETIONS FOR PAST WEEK IN U.S. FIELDS

Summarized Review of Field Results

State—	Completions This Week	Completions Last Week	Producers This Week	Producers Last Week	Gas Wells This Week	Gas Wells Last Week	Failures This Week	Failures Last Week	Initial Product'n This Week	Initial Product'n Last Week
Oklahoma	100	121	63	71	9	8	28	42	20,801	16,004
Kansas	34	54	15	31	..	3	19	20	3,128	6,914
Texas	130	96	83	64	3	3	44	29	8,264	14,213
Arkansas	58	45	50	40	..	3	8	2	51,445	66,020
Louisiana	12	8	6	5	2	1	4	2	260	245
Eastern States	178	187	124	139	29	20	25	28	1,903	1,814
Mountain States	28	23	23	23	1	..	4	..	1,815	5,365
California	35	16	35	16	..	..	..	..	28,045	13,850
Totals	575	550	399	389	44	38	132	123	115,661	124,425

NOTE—Following is the explanation of abbreviations, signs, etc., used in completion and wildcat reports: *—dry hole, abandoned well; ‡—salt water; †—junked and abandoned; ¶—million cubic feet of gas; abn—abandoned; bbls—barrels; b. s.—basic sediment; cas—casing; co—cleaning out; dk—derrick; dr—drilling; fsh—fishing; ft—feet; in—inches; lcn—location; m—milling N. S. E. W.—North, South, East, West; r—reaming; sd—shut down; sdtr—sidetracking; sp—spudding; sr—straight reaming; std—standardizing; sw—salt water; td—total depth; ur—under reaming; wo—workover; wosr—waiting on standard rig.

Texas

CENTRAL TEXAS

Company, Well, Location—	Initial Production Bbls.	Depth
Powell—		
Gulf Prod. Co. Bury Smith 10	40	1620
Humble Oil & Ref. Co. Flemming 6-B	25	1630
Ramsey 13-A	20	1635
W. Smith 6	15	1650
Oxford Oil Co. Hill 2	250	2940
Strube and Strube Hill 3-B	250	2940
Humble Oil & Ref. Co. Kent 3	20	1650
G. C. Kent 17	20	1615
Ramsey 14-A	15	1640
Ramsey 28-B	15	1650
W. Smith 8	25	1640
Roxana Pet. Co. Smith 6	55	1675
Bailey 2	30	1660
Bazette—		
Elliott-Nichols Westbrook 1	*	3710
Wortham—		
Humble Oil & Ref. Co. Manning 8.	200	2986

GULF COAST

Company, Well, Location—	Initial Production Bbls.	Depth
Spindle Top—		
Holliday & Langhman Gladys 1	20	755
Telshaw and Past Keith-Ward 1	*	310
Saratoga—		
E. W. Skinner Parrish 1, wo	*	2705
Goose Creek—		
Humble Oil & Ref. Co. Simms-Smith 61	*	4650
Hull—		
Republic Prod. Co. Dolbear 113	150	2835
Gulf Prod. Co. Phoenix Dev. Co. 2, wo	900	2275
South Liberty—		
Vacuum Oil Co. Barrett 10	300	3435
Big Creek—		
Union Sulphur Co. Davis 27	*	650
Orange—		
Brownie-Babbette Oil Co. McLean 3, wo	50	3185
Gulf Coast Oil Corp. Leon 5, wo	104	3345

SOUTH LOUISIANA

Company, Well, Location—	Initial Production Bbls.	Depth
Vinton—		
Vinton Pet. Co. Rescue 13	*	3040
Evangeline—		
The Texas Co. Latreille 49	15	2005

ARCHER COUNTY

Company, Well, Location—	Initial Production Bbls.	Depth
Archer Oil Corp. L. H. Farmer 3-D	200	1472
Barkley-Meadows et al L. F. Wilson 7	50	1525
British-American Oil Co. L. F. Wilson 11	40	1592
Burns-Maxson et al L. F. Wilson 2	10	1486
Camp Oil & Gas Co. L. F. Wilson 5-C	50	1605
Roy I. Carter et al Cowan 1	*	1230
J. R. Parkley 1	*	1743
Crown Central Pet. Corp. Rogers 10	*	1410
Davis-Hart Oil Co. Roach-Junker 11	*	1350
Empire Gas & Fuel Co. L. F. Wilson 19-C	105	1627
L. F. Wilson 22-C	70	1617
Gilliland et al Rogers 6	10	1293
Magnolia Pet. Co. J. F. Rogers 3	20	1341
W. T. Coffield 5	*	1428
Vic Stampfli 10	40	1365
Llewellyn Heirs 7	30	1347
Major Pet. Co. Cowan 5	40	1092
Marland Oil Co. et al F. Krupka 1	*	1342
McCarty Oil Co. L. F. Wilson 5-B.	*	1770
McCracken et al R. W. Fuller 1	*	2005
Mid-Kansas Oil & Gas Co. A. J. Lowe 2	*	1305
Murchison-Fain & Marland Oil Co. Echols 11	160	1320
Echols 12	20	1340
Echols 13	40	1327
Echols 1-B	50	1274
T. L. Griffin 19	60	1320
H. Harmel 7-A	25	1330
H. Harmel 8-A	25	1309
H. Harmel 9-A	30	1325
H. Harmel 12-C	75	1276
Hausler 1	*	1150
Norday Oil Co. J. L. Anderson 1	400	1415
Norwood & Howard C. Carson 1	*	1900
Phillips Pet. Co. J. H. White 68	130	1605
J. H. White 68	170	1607
Prairie Oil & Gas Co. L. F. Wilson 12-E	40	1594
Ray-Massie et al L. F. Wilson 1	*	1545
Shappell Oil Co. Jackson 21	30	1799
Sun Oil Co. L. F. Wilson 1-A	*	1596
Superior Oil Prod. Co. L. F. Wilson 1	*	1802
Texhoma Oil & Ref. Co. L. F. Wilson 7-E	40	1600
Kunkel 1	*	1230

BURKBURNETT

Company, Well, Location—	Initial Production Bbls.	Depth
Bonchil Oil Co. H. Beach 7	5	1270
H. Beach 8	110	993
Burk Cameron Oil Co. Allen & Foster 11	45	1906

California Standard to Drill in Venezuela

Caracas, Ven., S. A.—The Venezuelan Petroleum Company has entered into an agreement with the Standard Oil Company (California) for the development of about 56,000 acres in the Lake Maracaibo district now held by the former company. The Standard expects to drill as many as ten wells in the area.

ELECTRA

Company, Well, Location—	Initial Production Bbls.	Depth
Arco Oil Co. Burnett 1	*	1965
Magnolia Pet. Co. Rio Bravo 47	30	970
Ryan Pet. Co. G. E. Nance 34	95	1331
G. R. Ridgeway et al Powell 1	100	1862
The Texas Co. Duke 1-B	*	875

K-M-A AND IOWA PARK

Company, Well, Location—	Initial Production Bbls.	Depth
Atlantic Oil Prod. Co. Overby 11	*	1912
Humble Oil & Ref. Co. Allen-Kemp 3	†	1633
Magnolia Pet. Co. Maer-Staniforth 15	75	1766
Owens-Howell-Pace et al Mitchell 2	*	1315
Petroleum Prod. Co. Allen-Kemp 4.	250	1647
Texhoma Oil & Ref. Co. Hooks 1	*	1801
Lee Wilson et al Overby 3	10	1207

YOUNG COUNTY

Company, Well, Location—	Initial Production Bbls.	Depth
Bridwell et al Dunagan 1	20	1032
F-H-E Oil Co. Dunagan 3	20	1024
Graham et al Bryan 1	*	1043
Harris et al Cardwell 1	*	1102
Humble Oil & Ref. Co. Mercer 1	600	1078
Murchison-Fain & Littlefield Campbell 4-D	50	981
Campbell 5-D	10	974
Panhandle Ref. Co. et al Gambrell 8	5	1218
Shaw-Rathke et al Cheeves 1	40	1021
Cheeves 2	120	1017
Simms Oil Co. Carpenter 9	55	1027
Carpenter 3-A	5	1031
Texas Unity Oil Co. Hausler 1	*	1090
Tidal Oil Co. Foehr 1	*	1510

SOUTH VERNON

Company, Well, Location—	Initial Production Bbls.	Depth
W. G. Burton et al Castlebury 1	10	2175
Humble Oil & Ref. Co. Stephens 8	5	2032
Stephens 25	350	2306
Castlebury 18	†	622
William Priddy et al Castlebury 4	30	1316
South Vernon Oil Co. Zipperle 2	†	904

EASTLAND COUNTY

Company, Well, Location—	Initial Production Bbls.	Depth
Corzelius Bros. et al Brewer 1	*	3285
Prairie Oil & Gas Co. E. Roper 22	10	3495

SHACKELFORD COUNTY

Company, Well, Location—	Initial Production Bbls.	Depth
Hope Pet. Co. Reynolds 2, dd	90	1068
Phillips Pet. Co. J. A. Parrish 4	690	2106

STEPHENS COUNTY

Company, Well, Location—	Initial Production Bbls.	Depth
Clark & Hooker et al Jackson 1	5	1730
Kleinfelder et al Grimes 2	¶2½-10	3363
Barkley-Six-Little et al Pritchard 2	400	3550
McLester Oil Co. et al Pritchard 2	375	3548
Strawn Pet. Co. Stuart 23	25	1710
Texas Pacific Coal & Oil Co. Chas. Binney 53	45	1885
Chas. Binney 54	35	1740

Oklahoma

Company, Well, Location—	Initial Production Bbls.	Depth
Kay County—		
Comar Oil Co.'s No. 4 Priboth, NEc SE NW 21-29-1w	160	2075
Mutual Oil Co.'s No. 1 Richmond, C SE NE NW 1-26-2w	250	2653
The Texas Co.'s No. 9 Darks, NWc SE SW 27-25-1w	998	4205
Comar Oil Co.'s No. 21w Beverlin, C SE NW NW 34-25-1w	1409	4195
Prairie O. & G. Co.'s No. 6 Smith, C SE NW SE 1-26-2w	90	2532
Prairie O. & G. Co.'s No. 1 Blubaugh, C. SW SW SE 33-27-1w	*	1430
Garfield County—		
Magnolia Pet. Co.'s No. 2 Mullens, C W L SE SE SE 11-22-4w	5	2280
Cosden & Marland's No. 46 Schooland, NEc SW NE SE 13-22-4w	300	2359
Sinclair O. & G. Co.'s No. 46 Schooland, NEc SW NE SE 25-22-4w	65	2030
No. 13 Hartley, SWc SE NW 18-22-3w	10	2173
Pawnee County—		
Southwestern Oil Fields Co.'s No. 13 Wasson, SEc SW NW 24-30-8	900	2748
Payne County—		
Josey Oil Co.'s No. 4 Long, SWc 36-19-5 owd	250	3502
Tulsa County—		
W. E. Holmes' No. 1 Timothy, NEc SW NE 22-19-10	100	1945
Riverland Oil Co.'s No. 2 Gaylord, C S L SE SE 27-19-11	600	2576
Thompson & Black's No. 1 Colbert, NWc SE SW 29-19-12	50	2088
Cunningham et al's No. 1 Franklin, NWc 8-18-13	¶	1427
Ora Upp's No. 5 Franklin, C N L SW SE 9-18-13	10	1269
Detrick et al's No. 1 Boyd, SEc SW SE 5-16-12	170	2024
Williams-Wood Syndicate's No. 1 Franklin, SEc SW 36-19-11	*	2248
Day Oil Co.'s No. 2 Bell, SEc NW 24-19-14	*	1325
Stephens County—		
Magnolia Pet. Co.'s No. 1 Ketchum, NEc SE NW 26-1-8w	¶	1435
W. M. Priddy's No. 1-A Coffelt, NEc SE 26-1-9w	100	2285
Pierce & Brown's No. 2 Taliaferro, C N½ SE 27-1s-8w (owd)	¶	1736
Magnolia Pet. Co.'s No. 1 Woodward NEc NE NE 14-2s-9w	30	1775
Lone Star Gas Co.'s No. 1 Dolen, SWc SW NE 5-3s-4w	*	2230
Gault's No. 1 Smith, SEc 3s-4w	*	3507
Carter County—		
Humble O. & R. Co.'s No. 3 Carpenter, C SW NE NE 22-2s-3w	1200	2575
Twin State's No. 5 Davis, C NE NE SW 23-2s-3w	75	2140
Magnolia Pet. Co.'s No. 6 Smith, C NE NW SW 24-2s-3w	240	2135
Franklin-Carter's No. 2-A Brooks, C NE NE 25-2s-3w	250	2619
Coline Oil Co.'s No. 2 Mullen, C SE NW SE 8-3s-2w	65	2154
Amerada Pet. Co.'s No. 13 Clay, SWc NW SE NE 28-5s-1w	205	1035
Amerada Pet. Co.'s No. 1 Fish, SWc NE SE 28-5s-1e	180	1163
Westheimer's No. 4 Fee, SWc NW NE SW 28-5s-1e	60	1181
Hughes County—		
Independent's No. 8 I. Alexander, C SW SW NE 2-9-9	20	3351
Superior & Fuhrman's No. 1 T. Buck, SWc SW SE 20-9-10	¶	2504
Turman Oil Co.'s No. 1 Davis, SWc 15-9-9	*	3400
Grady County—		
Noble & Westerfelt's No. 3 McCaughtry, C NE NE NW 35-5-8w	¶	2450
Magnolia Pet. Co.'s No. 2 Rockhold, C SE NW 11-4-8w	¶	1435
Osage County—		
Gled Oil Co.'s No. 1, NW SW NW NW 11-20-12	¶	1545
I. T. I. O. Co.'s No. 3, C NE NE NW 1-21-8	40	2350
Skelly Oil Co.'s No. 3, C W L SW 11-21-9	80	2280
Breene et al's No. 10, SW SE SW SW NW 5-21-11	100	2021
Sterling Oil Co.'s No. 4, SEc 16-21-12	40	1960
C. W. Grimes's No. 6, SE SW 31-21-12	300	2373
Red Bank Oil Co.'s No. 7, SE NE NW NW 36-22-12	680	2783
Peters Pet. Co.'s No. 14, NE SW NE SW 4-23-8	30	2160
Test Log Oil Co.'s No. 3, NE SE 16-24-8	10	489
Foster & Norwood's No. 47, NW NE NW SE 23-24-9	30	2149
Continental Oil Co.'s No. 4, SW SE SW 29-24-9	¶	2190
Titus et al's No. 6, C W L E½ W½ NE 12-24-11	7	1755
Friedman et al's No. 4, NE SE NE NW 12-24-11	20	1784
Olean Pet. Co.'s No. 4, SW NE NW SE 19-25-9	15	2320
Plymouth Oil Co.'s No. 2, NE NW NE SW 33-25-11	30	1855
Howard et al's No. 6, C SE NW SW 28-28-11	10	1000
Okla. Eastern Oil Co.'s No. 1, C SE NW SE 18-20-12	*	2357
Devonian Oil Co.'s No. 1, C SE SW 2-21-10	*	2530
Devonian Oil Co.'s No. 1, C S L NW 14-21-10	*	2520
Selby et al's No. 9 NE SE NE NW 16-21-12	*	2031
Continental Oil Co.'s No. 1, C N L SW 10-22-10	*	2309
Smith et al's No. 1, C NE 16-22-12	*	1867
The Texas Co.'s No. 9, C NW NE NE 29-25-8	*	2698
Markham et al's No. 1, SW NW NE SE 23-21-8	*	2904
Burbank Field—		
Phillips Pet. Co.'s No. 1, SW NW 12-27-5	100	3023
Skelly-Phillips' No. 1, SE NE SE SW 22-27-5	25	3005
Prairie O. & G. Co.'s No. 12, C SE SW SE 12-27-5	200	3024
Wagoner County—		
Knox & Shouse's No. 5 Burgess, NEc NW NW 26-18-16	10	455
J. L. Turner's No. 4 S. Tiger, SWc SE NE SW 21-18-16	*	725
B. B. Wheeler's No. 1 Tiger, SEc NE NW SW 21-18-16	*	701
Muskogee County—		
Fike & Klatt's No. 1 Hood, NWc SE SW 24-12-19	*	2000
Creek County—		
Atlantic Oil Prod. Co.'s No. 3 Johnson, C S L SW SE 14-17-8	45	2726
T. P. C. & O. Co.'s No. 2 Barnett, C W L NE SE 6-16-9	200	2733
Skelly Oil Co.'s No. 4 Bruner, SWc NW SE 29-15-10	100	3293
Kistler's No. 3 Scott, SWc NW 21-14-10	60	3359
The Texas Co.'s No. 2 Tahkaney, NWc SW 18-17-10	*	2790
Phillips Pet. Co.'s No. 4 Wisner, NWc SW SW 4-15-9	*	3050
Texas Co.'s No. 1 Rogers, NEc SE SE 5-15-9	*	2970
Phillips Pet. Co.'s No. 1 Arparka, SEc NE NW 19-14-10	*	3573
Okmulgee County—		
Wilcox & Oswalt's No. 1 Anthis, NEc SW SW 1-16-11	350	2297
J. A. Swindler's No. 1 Lewis, SWc NE 25-13-11	498	2449
J. G. Hass' No. 15 Colbert, NE NW 15-14-14 (owd)	¶	1823
J. A. Swindler's No. 10 Lewis, SWc NE SE 20-15-14 (owd)	200	2220
Henry Oil & Kingwood's No. 1, SEc SW SE 30-14-12	*	2983
Mondett et al's No. 2 Smith, NEc NW NW 29-13-13	*	1490
Okfuskee County—		
Josey Oil Co.'s No. 3 Fields, SEc NW NW 33-12-11	320	2915
Angle-Texas Oil Co.'s No. 1 Cully, NWc NE NW 4-11-11 (owd)	*	3730
Roxana Pet. Co.'s No. 1 Brown, C SW SW SW 2-10-8	*	3815
Mid-Continent Pet. Corp.'s No. 1 Buck, C NW NW NW 11-10-8	*	1346
T. B. Slick's No. 1 Dunson, C SW SW NE 35-10-9 (owd)	*	3414
Seminole County—		
T. B. Slick's No. 1 Chupco, C NW SE SE 27-6-7	*	3685
Prairie O. & G. Co.'s No. 3 Owen, C NW SW NE 3-10-8	204	3428
Cosden & Waite Phillips' No. 7 Williams, C SE NW SW 33-11-8	500	3471
Cosden & Waite Phillips' No. 8 Williams, C SW NE SW 33-11-8	400	3470
Sinclair-Houston's No. 2 Hill, C SW NW NE 33-11-8	1805	3427
Carter Oil Co.'s No. 15 Dunn, C SE NE NW 3-10-8	360	3421
Roxana Pet. Co.'s No. 4 Yarhola, C SE NE SW 3-10-8	50	3480
Gypsy & Laurel's No. 7 Fixico, C SW NW NW 4-10-8	35	3460
W. R. Ramsey's No. 3 Amos, C SW SE SE 31-8-8	1476	3248
P. & R. Corp.'s No. 8 Amos "B", C SW SW SE 31-8-8	1850	3282
Dixie Oil Co.'s No. 3 Knight, C NW NW NE 6-7-8	2829	3251

Kansas

Company, Well, Location—	Initial Production Bbls.	Depth
Chase County—		
Selby O. & G. Co.'s No. 1 Hartley, SEc SW SE 35-22-9	130	2469
Cowley County—		
Waite Phillips & Marland's No. 6 Johnson, NEc SW SE 20-33-3	1100	3257
O. J. Connell's No. 1 Woodsock, SWc SE SW 2-30-5	*	....
Harry Garden's No. 1 Eastman, NEc SW SE 6-31-6	*	....
McKnab et al's No. 1 South-College, SEc 11-32-4	*	....
Ark. Fuel Oil Co.'s No. 3 Holt, SE NE SE 12-32-4	*	....
Day & Bunnell's No. 1 Weir, NEc NW SE 31-32-4	*	3580
Waite Phillips' No. 2 Alexander, SWc SE SE 4-33-3	*	....
Sedgwick County—		
Curtiss & Frost's No. 1 McMillen, C NW 14-29-2w	*	3968
Greenwood County—		
Empire G. & F. Co.'s No. 1 Yearout, SEc 10-22-11	35	1830
National Ref. Co.'s No. 9 Wick, SWc SE NW NE 27-22-11	30	1940
Empire G. & F. Co.'s No. 2 Greegan, NWc SW NE 32-22-11	283	1973
J. B. Murphy's No. 3 SEc SW SW 2-23-9	300	2352
Greenland Oil Co.'s No. 1 Shambaugh, SEc NW NE 2-23-9	200	2467
Greenland Oil Co.'s No. 6 Green, SEc NW SE 10-23-9	175	2361
Skelly & Emerald's No. 4 Noler, SEc SW SW 10-23-9	125	2390
Greenland Oil Co.'s No. 2 Noler, SWc NE NE 16-23-9	75	2500
Theta Oil Co.'s No. 8 Young, NWc SW SE 10-23-13	5	1818
Roth & Mission Oil Co.'s No. 1 Cartwright, NEc SW NE 1-24-9	105	2355
Rhodes-Abbell et al's No. 1 Kirk, NWc 27-24-8	*	2556
Mid-Kansas O. & G. Co.'s No. 4		

Company, Well, Location—	Initial Production Bbls.	Depth
Prather, NEc NW SE 30-22-10..	*	2557
Rhodes & Abell's No. 2 Blackwell, SEc SW SE NE 16-24-13.....	40	1643
Polhamus et al's No. 2 Wiggins, SWc SE SE 27-24-9	*	2310
Selby O. & G. Co.'s No. 1 Teichgrade, NWc SE 11-26-9	*	2260
Russell County—		
Valerius O. & G. Co.'s No. 6 Oswald, SWc NW NE NW 8-12-15w	275	2944
Streeter & Stearns' No. 5 Oswald, SEc NW SW 8-12-15w.....	250	2940
Butler County—		
Potwin O. & G. Co.'s No. 2 Saxwell, C W L SE 31-24-4.....	*	2756
Montgomery County—		
Orbine et al's No. 1 Hudeberg, NEc SE SE 20-31-15	*	1676
Hazlett & Wells' No. 1 Daugherty, NWc SW 1-31-16	*	1410
Galbreath's No. 1 Sloan, NEc NW 13-32-14	*	1740
Steinberger Bros.' No. 1 Brooks, SWc 24-33-13	*	1652
Venniman et al's No. 1 Mason, C SW NW 25-33-14	*	1740
Cross Producing Co.'s No. 2 Goos, SWc NE 12-33-16.....	*	1312
Coffeyville Brick Co.'s No. 1 Bellan, NEc NW SW 3-33-17.....	*	1209

Arkansas

Smackover Field, Ouachita County—		
Crosby et al's Berry 6, 33-15-15....2000		2383
El Dorado Union Oil Co.'s Umsted 3, 4-16-15 3000		2368
Forrest Oil Co.'s Arnold 2, 26-15-15	70	2102
Lewis B-2, 26-15-16	20	1950
Freeling et al's Gibson 3, 26-15-17..	30	2332
Gray et al's Myar 5, 32-15-16	15	2270
Gilliland Oil Co.'s Myar B-5, 30-15-17	*	2870
Gulf Ref. Co.'s J. Goodwin A-2, 5-16-15 1800		2391
R. Bennett 5, 33-15-15.....	500	2388
Holloway et al's Murphy 1, 2-16-15	125	1978
Humble O. & R. Co.'s F. A. & B. T. Laney 1, 32-15-15 5000		2399
Umstead 12, 5-16-15	100	2359
Lion O. & R. Co.'s Hays 2, 4-16-15.1500		2361
Magnolia Pet. Co.'s J. Goodwin 5, 5-16-15 5000		2378
Marine Oil Co.'s Snyder 6, 34-15-15.2000		2382
Miles et al's Neeley 3, 26-15-16....	90	2084
Owenwood Oil Corp.'s Snyder 8, 34-15-15 2000		2369
Phillips Pet. Co.'s Joyce 6, 33-15-15.1000		2360
Joyce 10, 33-15-15.....2500		2390
Roxana Pet. Co.'s Snyder A-1, 34-15-15 1200		2379
Standard Oil Co.'s Umstead 16, 32-15-15	500	2396
The Texas Co.'s Berry 9, 33-15-15..	500	2384
Solmson B-5, 32-15-16	*	2635
Smackover Field, Union County—		
Arkrado Oil Co.'s Hatfield 5, 7-16-15	*	2562
Arkansas Fuel Oil Co.'s Ferguson 6, 6-16-15	500	2400
Broderick & Calvert's Murphy A-4, 8-16-15 1500		2474
Butler-Murray Oil Co.'s Wingfield 1, 5-16-15	*	2267
Eason et al's Murphy 4, 15-16-15..2000		2470
Federal Pet. Co.'s Ballard 6, 10-16-15	200	2421
Flenniken 8, 6-16-15.....2000		2379
Flenniken 9, 6-16-15.....	800	2383
Federal Pet. Co.'s Lawton A-8, 10-16-15	400	2460
Lawton A-12, 10-16-15.....	400	2419
Gulf Ref. Co.'s Alphin 11, 10-16-15	200	2386
T. C. Murphy 7, 9-16-15.....	*	2390
Humble O. & R. Co.'s Flenniken A-5, 3-16-15	800	2387
Keen & Woolf's Murphy 3, 9-16-15..	500	2442
Marr et al's Murphy 2, 17-16-15....	200	2500
National Gas & Pet. Corp.'s Harrell 2, 17-16-15	500	2510
Ballard 3, 15-16-15	500	2438
Ohio Oil Co.'s Murphy 6, 9-16-15..	500	2411
Pate 9, 10-16-15	100	2386
Phillips Pet. Co.'s Alphin 6, 11-16-15	500	2412
Pure Oil Co.'s Friend 6, 6-16-15....	800	2396
Meriweather 3, 6-16-15.....	800	2411
Sam Richardson & Co.'s Lawton 4, 10-16-15	700	2463
Roxana Pet. Corp.'s Flenniken A-2, 10-16-15	*	2351
Flenniken C-2, 8-16-15	150	2406
Standard Oil Co.'s H. Murphy 7, 4-16-15	300	2376
H. Murphy 24, 4-16-15	800	2386
The Texas Co.'s E. G. Murphy 2, 14-16-15	40	2005
Unity Pet. Co.'s Bilyieu 5, 8-16-15.3000		2400
Lawton 2, 10-16-15 2000		2460
Roper 4, 3-16-15 2000		2382
United Central Oil Corp.'s Murphy 5, 8-16-15	280	2551
Wright et al's Hodges 2, 1-16-17..	25	2265
Total, 56 wells.....51,445		

Louisiana

Bellevue Field—		
Wetherbee et al's Fee G-8, 23-19-11	¶½	392
Caddo Parish—		
Dixie Oil Co.'s State 5, 24-21-15..	12	1642
Cotton Valley Field—		
Louisiana Oil Ref. Corp.'s Jackson 1, 27-21-10	125	2544
Ohio Oil Co.'s Cox 3, 15-21-10....	45	2556
Gray 11, 27-21-10	50	2535
Hodges 1, 15-21-10	25	2568
Total, 4 wells	245	
Monroe Gas Field—		
Ruston Drilling Co.'s James 1, 7-20-4e	¶13	2148
Waskom Gas Field—		
Panola Oil & Gas Co.'s Harris 1, B. J. Long Headright survey....	¶10	1948
Panola Gas Field—		
McCormack et al's Sheehan 3, Jas. Asher Headright survey.....	*	1650

Mountain States

WYOMING

Salt Creek Field—		
Midwest Oil Co.'s No. 31AS SE¼ 27-40-79	50	2065
No. 24A NE¼ 14-40-79	55	1935
No. 36A SW¼ 19-40-78	35	2287
No. 3A SE¼ 27-40-79	60	1759
Wyoming Associated Oil Corp.'s No. 33A NW¼ 35-40-79	40	1352
No. 35 SE¼ 26-40-79	65	1129
No. 31A SE¼ 23-40-79	55	1475
No. 36A SW¼ 14-40-79	75	1656
No. 18A NE¼ 24-40-79	50	1795
Mountain & Gulf Oil Co.'s No. 19A SW¼ 6-39-78	60	2070
No. 19A NW¼ 6-39-78	55	1978
Midwest Oil-Wyoming Associated No. 19A NW¼ 13-40-79	60	1945
No. 34A NW¼ 13-40-79	75	1887
Western States Oil & Land Co.'s No. 18A NE¼ 5-39-78	40	2380
No. 19A NE¼ 5-39-78	125	2335
Carter Oil Co.'s No. 14P 17-39-78 .	*	2970
Continental Oil Co.'s No. 31A 19-40-78	40	2480
Simpson Ridge—		
Producers & Refiners Corp.'s No. 1A 20-81-80	*	6931
No. 7 21-21-80	35	665
Sage Creek Structure—		
Marland Oil Co.'s (Colorado) No. 1 SW¼ 27-18-18-87	*	2573
Notches Dome—		
Marland Oil Co.'s No. 1 10-37-85 ..	300	2775
Rex Lake Field—		
Ohio Oil Co.'s No. 4UP 23-16-77..	¶	425

MONTANA

Cat Creek Field—		
Mid-Northern Oil Co.'s No. 9W ...	40	....
Kevin-Sunburst Field—		
Crumley & McKnight's No. 1 NW¼ 34-35-2	75	1488

COLORADO

Fort Collins Dome—		
Union Oil Co.'s No. 1M 19-8-68 ..	350	4496

Company, Well, Location—	Initial Production Bbls.	Depth
Sage Creek Dome—		
Carter Oil Co.'s No. 1 8-4-87	*	3077
Florence Field—		
E. R. Good et al No. 1 16-20-69 ...	50	1602

NEW MEXICO

Bloomfield District—		
Gibson Oil Co.'s No. 1 21-29-11 ...	25	....

California

Inglewood—		
Standard's Vickers 2-5	800	2752
Vickers 1-8 2800		2550
Vickers 1-9 2000		2560
L. A. Inv. 1-11 3000		2527
L. A. Inv. 1-14	800	2499
Petroleum Midway's Moynier 5 . .	700	2591
Petroleum Securities' Rubel 9 . ..4670		2456
Shell Co.'s Rindge 2 2100		2605
Associated's Vickers 1-13	585	2240
Brownmoor Oil Co.'s No. 2	800	2221
Rosecrans—		
Walker, Wilson & Gordon's No. 1..	800	4446
Sentinel's Athens 4	500	4461
Elbe Land & Dev. Co.'s No. 1.....	900	4445
Petroleum Midway's Kreitz 1, wo..1750		4431
Marine Corp.'s No. 32	500	5010
Brea—		
Shell Co.'s Pico 3-A	290	4561
Olinda—		
C. C. M. Oil Co.'s No. 97	345	2700
Murphy-Coyote—		
Standard's No. 101	220	4748
No. 102	470	4460
Huntington Beach—		
General Petroleum's Dabney 4....	600	3738
Associated's Miley Keck 5, wo	230	3278
Dominguez—		
Shell Co.'s Manul 6	310	4200
Reyes 26 1210		4035
Torrance—		
C. C. M. Oil Co.'s Del Amo 54....	75	3650
Del Amo 27	100	3660
General Petroleum's Carson 9	15	3365
Poggi 1, wo	35	3836
Superior's Torrance 62	90	3790
Marine's No. 50, wo	50	3817
Petroleum Securities' Marble 18, wo	75	3765
Standard's Marble Fee 13, wo	150	3820
Universal's No. 8, wo	75	3775
Midway District—		
Pacific Oil's No. 1, sec 19-31-24	175	4420
Ventura—		
Shell Co.'s Goswell 6	625	4800
Santa Barbara—		
R. & G. Oil Co.'s No. 4, sec 30-9-32	200	2912

Eastern States

PENNSYLVANIA

Bradford Field—		
South Penn Oil Co. Fee 16.....	2	....
Leasure 1	3	....
Bingham 439, tract 82	3	....
Bingham 576, tract 106	3	....
Hodge 1	3	....
Forest Oil Co. Baldwin 1	4	....
Hope Oil Co. Dill 2	3	....
Petroleum Reclamation Co. Pratt 2..	2	....
Arthur Yahn Burns 2	3	....
George W. Bovaird Bingham 391, tract 77	3	....
D. W. Daly Bingham 398 tract 1..	2	....
T. H. Kennedy Bingham 490 tract 129	3	....
Wright & Co. South Penn 17	3	....
Redfield, Elder & Co. Bingham 46..	3	....
E. J. Burns Burns 30	3	....
Hazlewood Oil Co. Hazlewood 44..	3	....
C. W. Crooks Estate Crooks 12....	2	....
Willoughby Interests Willoughby 6.	3	....
Thessen & Co. Thessen 1.....	2	....
Mose Sullivan Sullivan 1	2	....
Mrs. J. F. Jones Jones 1.....	2	....
C. L. Wann & Co. Bingham 370, tract 39	2	....
Mohan & Grant Mohan 59	3	....
Harris Oil Co. Bingham 188 tract 1	8	....
F. S. Boquin Boquin 1.....	3	....

Company, Well, Location—	Initial Production Bbls.	Depth
Linwood Oil Co. Gerner 1	3	....
Shaw & Co. Nesselson 1	3	....
C. E. Potter Irvine 2	3	....
C. L. Wann & Co. Bingham 370, tract 38	3	....
Skaggs Bros. Skaggs 1	3	....
Venango County—		
S. C. Sampson Nelson 9	2	....
Parker, Trax & Co. Grant 5	2	....
Rhodes & Bourne Simmons & Paul 32	2	....
Monjar & Hawkins Hoffman 28	2	....
Midland Oil Co. Stevenson 39	2	....
Thompson & Rice Thompson & Co. 3	2	....
Hancox & Leadenham B. & B. 3	2	....
C. D. Boals & Co. Boals 32	2	....
Butler County—		
T. W. Phillips Oil & Gas Co. Wylie 3	¶1	....
G. A. McGill Barnhary 1	¶1	....
Rapp & Co. Rader 4	2	....
I. N. Johns & Sons Johns 1	2	....
Greiff & Co. Kerr 1	2	....
E. C. Griffith Griffith 3	2	....
Greene County—		
Peoples Natural Gas Co. H. H. Milliken 2	12	....
Marshall-Preston Oil Co. Samuel Webster 1	*	....
Kennedy, Brock & Co. Spencer-Kennedy 2	*	....
Nineveh-Concord Oil & Gas Co. C. H. Andrews 4	¶1	....
Kennedy-Brocker Oil & Gas Co. S. H. Kennedy 2	*	....
Center-Middle Field—		
W. M. Creal Roger 1	2	....
F. J. Moser Lot 3767 tract 25	2	....
Grosch & Ruhlman Columbia 1	2	....
Moore & Wolfe Lohman 1	2	....
Clarion County—		
Swartzfager & Co. Brosius 1	2	....
D. R. Shields & Co. Hoover 4	¶1	....
Knight & Co. Ritts 7	2	....

NEW YORK

Allegany County—		
Empire Gas & Fuel Co. Empire 2	3	....
C. W. Taylor & Co. Taylor 1	2	....
R. J. Dermitt Dermitt 1	2	....
A. C. A. Oil Corp. Fee 1	2	....
F. J. Wilson Cass 1	2	....
M. A. Jordan Jordan 1	2	....
Wasson & Martin Bros. Wasson 1	2	....

WEST VIRGINIA

Lincoln County—		
Columbia Gas & Electric Co. J. J. Smith 1	¶2	....
Transalvania Pet. Co. Rufus Fry 1	¶1½	....
Cambridge Gas Co. Milt Egnor 1	¶1¼	....
Claud Morris 1	¶2	....
Tampico Oil & Gas Co. S. M. Pike 1	¶1¼	....
Marshall County—		
Manufacturers Light & Heat Co. A. B. Detern 1	¶3	....
Guy Patterson William Davis 3	*	....
Hope Natural Gas Co. I. G. Logsdon 4	8	....
Gilmer County—		
Hope Natural Gas Co. Peardy Collins 1	¶2½	....
Hope Const. & Ref. Co. Amanda Queen 1	¶2½	....
Pittsburgh & W. Va. Gas Co. H. H. Haney 1	¶2	....
Ritchie County—		
L. Rinehart & Co. John Scott 1	40	....
Coe Bros. & Co. T. W. Lacey 4	¶3	....
Wetzel County—		
Silver Hill Oil Co. W. V. Moore 1	10	....
Hope Const. & Ref. Co. Elmer Miller 1	2	....
Roane County—		
Heck Oil Co. W. T. George 1	¶6	....
Carter Oil Co. A. J. Runnion 1	¶¼	....
Pleasants County—		
W. C. Patterson E. Hines 7	2	....
Harrison County—		
Lyons & Co. M. A. Dennison 1	¶3	....
Clay County—		
Virginia Gasoline & Oil Co. Edward Wygant 1	¶2	....
Kanawha County—		
United Fuel Gas Co. C. E. Halstead 1	¶1	....
Boone County—		
Owens Bottle Machine Co. Bull Creek Land & Coal 2	¶1	....
Doddridge County—		
Carter Oil Co. Lloyd McIntyre 1	¶1¼	....
Wirt County—		
W. C. Patterson C. E. Vandevender 13	*	....
Monongalia County—		
West Virginia Traction Co. W. L. Ramsey 1	*	....

KENTUCKY

Barren County—		
Bishop & Son Bishop 2	7	....
Lew J. Emery Jr. Sons Co. Depp-Greer 9	16	....
Porter & Co. McGlochlin 6	18	....
Wood Oil Co. Abston 1	2	572
Houch 1	25	450
S. L. Curtis Unknown 1	*	....
T. L. Gorby Saunders 2	15	....
Allen County—		
Lowe & Wynn Ayres 20	5	415
J. T. Ray Geeman 1	5	305
Unique Oil Co. Lucy Boocher 7	3	355
Mrs. Steubenrauch Morehead 5	2	300
C. Wilkes & Co. A. E. Hooten 1	2	....
Warren County—		
L. C. Madison Brown 3	5	1084
Cadet Oil & Gas Co. Dr. Lewis	*	....
Biddle 23	2	700
Dickson & Sledge S. T. Pearson 5	*	517
Watts & Brandt University Land 1	5	945
Floyd County—		
American Roller Mills Co. Summitt Area 6	¶3	....
Summitt Area 7	2	....
Summitt Area 8	3	....
Summitt Area 9	¶3	....
Lawrence-Johnson Counties—		
Union Gas & Oil Co. R. N. Sparks 3	15	739
Townsend & Garrison J. N. Sparks 3	10	....
David Fox J. W. Bond 2	2	....
Owensboro District—		
Panther Creek Oil Co. R. M. Miller 15	20	....
Spice Knot Petroleum Co. Bert Thompson 2	3	....
Wood Oil Co. Holbrook 1	*	....
Johnson-Magoffin Counties—		
Carter Oil Co. D. M. Wheeler 6	3	....
Swiss Oil Corp. Samuel Hackworth 1	10	....
Wayne County—		
Clark Oil & Gas Co. A. Campbell 7	*	....
B. S. Huffaker Huffaker 1	*	....
Cumberland County—		
W. S. Raydure M. E. Coop 4	130	936
Morgan County—		
Oliver Jenkins Joseph Howard 1	5	....
Hopkins County—		
Copper Flash Oil Co. Holman 7	5	....
McCreary County—		
Brown & Co. Stearns & Co. 2	5	....
Lee-Owsley Counties—		
Combs Bros. Development Co. Andrew Combs 6	4	....
Simpson County—		
S. H. Brockheimer Charles Potter 1	3	502
Edmonson County—		
32 Oil Co. Dunham 2	2	....
Boyd County—		
Unknown Parties Al. Bertram 1	¶2½	....
Wolfe County—		
Atlantic Prod. Co. Lizzie Cable 1	*	....
Greenup-Carter Counties—		
H. B. & G. C. Sipple Hugh Fitzpatrick 1	*	....

TENNESSEE

Clay-Jackson Counties—		
Dafoe & Co. Williams 5	300	462
Hamp Lynn 4	200	428
Rex-Pyramid Oil Co.'s Draper 1	150	....
Evans & Dixon Hall 1	*	....
Reape & Co. Tinsley 1	*	570
Young & Bailey 1	*	....
Morgan County—		
Russell Dev. Co. P. J. Neil 1	200	1462
Dr. H. S. Jones Jones Fee 1	¶2½	1750

SOUTHEASTERN OHIO

Morgan County—		
The Pure Oil Co. Clarence Fry 3	20	....
Daily Oil Co. C. C. Crider 6	5	....
The Sun Co. Joseph Longstreth 2	¶1½	....
Noble County—		
W. A. Clark & Co. Otto Feldner 1	*	....
Ella Weikham & Co. John Bryan 7	2	....

CENTRAL OHIO

Licking County—		
M. F. Whitehill & Co. James B. Simpson 4	85	....
Detex Oil & Gas Co. Otto Franks 2	5	....
F. M. Rugg & Co. Jacob Weiss 6	5	....
Holmes County—		
East Ohio Gas Co. David Anderson 2	30	....
Ohio Oil Co. Al W. Schoonover 1	¶1	....
Perry County—		
Marshall & Keller M. E. and C. Ketcham 1	5	....
Hocking County—		
Red Top Oil & Gas Co. Chute heirs 7	12	....
Athens County—		
Biddle Oil & Gas Co. Frank Biddle 4	5	....
Knox County—		
East Ohio Producing & Ref. Co. H. S. Smith 15	2	....
Wayne County—		
East Ohio Gas Co. E. L. Steiner 2	¶1	3300
Fairfield County—		
Carter Oil Co. S. J. Kelsey 1	¶1½	....

NORTHWESTERN OHIO

Wood County—		
Ray & Mercer Mary Wallace 18	20	1475
Charles Zeising & Co. Bingman Bros. 3	3	1306
Ohio Oil Co. Andrew Emerine 25	*	1483
Donald Oil & Gas Co. J. W. Sterling 22	*	1356
Shelby County—		
Thermond Oil & Gas Co. Frank Dansig 2	75	....
Mansfield Oil & Gas Co. Charles Broerman 5	2	....
American Natural Gas Co. Zimmerman 2	5	....
Sandusky County—		
Van Vleck-Stowe Oil Co. D. B. Jones 12	10	1294
Frank Haubert Martha Talbot 4	12	1319
Hancock County—		
Starr & Clark Alice Stauffer 4	40	1317
Darke County—		
J. F. Hoffman & Co. J. A. Cox 2	15	1190
Auglaize County—		
Rock Oil Co. Chas. Steineman 3	10	1319
Allen County—		
C. A. Peavey & Co. Elias Lewis 12	5	1315
Mercer County—		
C. E. Young & Co. J. C. Dues 2	1	1290
Hardin County—		
Whipple, Ulrich & Neal Bros. Jason Manchester 1	*	1458

INDIANA

Pike County—		
Ohio Oil Co. H. Henke 1	*	1356
Della Wilson 2	2	1325

ILLINOIS

Clark County—		
W. C. McBride, Inc., Nettie Baker 5	60	1433
Nettie Baker 6	65	1420
Shrider, Coats & Co. Briscoe heirs 4	1	452
Lusk, Stratton & Co. G. L. Wiser 4	*	409
Crawford County—		
Ohio-Silurian Oil Co. R. A. Siler 13	2	....
Associated Producers Co. Susan Tohill 10	2	....
Wabash County—		
Skidmore & Co. S. L. Liddle 1	*	1476
Coles County—		
H. McCurdy & Co. Grant Childress 1	*	569

WILDCATS FROM ALL SECTIONS

East Central Texas Wildcats

COMPLETION

Company, Well, Location—	Initial Production Bbls.	Depth
Limestone County—		
Leak et al Stitt 1	*	3073

DRILLING REPORT

ANDERSON COUNTY—Roeser Pet. Co. et al's Brooks-Auld 2, dr 2900 ft; J. K. & L. P. Daniel 1, Chas. Gilmore sur, cemented 10-inch cas 1390 ft.

BOWIE COUNTY — Daulby Springs Oil Co.'s Parkey 1, testing sand 2177-3208 ft. McCullough et al's Williams 1, Levi Rice sur, dr sand 2704-80 ft.

FALLS COUNTY — Harrison-Bletch & Thompson's B. & T. 1, sd titles 3320 ft. Harrison et al's Bargainer 1, lcn. Foster-Reiter Oil Corp. et al's L. T. Williams 1, sd 879 ft.

HENDERSON COUNTY—Fred Haynes et al's E. G. Bounds 3, H. Jeffreys sur, rig.

HOPKINS COUNTY — Gulf Prod. Co.'s Susan B. Pierce 1, Jas. A. Craft sur, rig. Stough & Potts et al's Fitzgerald 1, John Binnion sur, dr 2205 ft.

HUNT COUNTY—Tallal & Kelsey's J. W. Barnett 1, Alex Smith sur, sd 2046 ft.

KAUFMAN COUNTY — Cranfill-Kirby & Humphreys Co.'s M. J. Tharp 1, G. P. Dyke sur, spudding.

LIMESTONE COUNTY—Eisenmayer et al's Rivers 1, B. C. Abbott sur, rig. Hurdleston et al's Gill 1, sd for water 2750 ft. Magnolia Pet. Co.'s Rich Kennedy 1, salt water 3006-08 ft, dr 3105 ft. Yoder et al's Saunders 1, sd water 1015 ft.

MILAM COUNTY—Magnolia Pet. Co.'s M. M. Kime 1, S. P. Carson sur, dr 3515 ft.

NAVARRO COUNTY—Atlantic Oil Prod. Co.'s Talley 1, rig. Barkley-Meadows' A. Hilburn 2, spudding; Hilburn 3, and 4, rigs. Gulf Prod. Co.'s A. Hilburn 2, rig. W. A. Graves et al's V. H. Stubbs 1, making 5 bbls oil and little gas 2984-91 ft Homer Chapman et al's (was Stotman et al) Ebb Bounds 1, co 3105 ft. Gilbert Johnson et al's J. W. Greer 1, Bazette Dist.) top Austin chalk 2650 ft, dr chalk 2680 ft. Prince & Vacuum Oil Co.'s S. M. Huggins 1, Bazette Dist, dr 1650 ft. Oxford Oil Co.'s B. T. Phipps 1 and 2, rigs. Elliott & Nicolle's W. J. Westbrook 1, Kerens Dist., sd for water 3710 ft. Simms Oil Co.'s E. A. Elliott 1, lcn. Rogers et al's Milligan 1, top chalk 2366 ft, dr 2515 ft. C. E. Holt et al's A. T. Madewell 1, SW of Richland, rig. King State Oil Co.'s J. W. Laird 1, NW of Wortham, sd 2240 ft.

Texas Panhandle Wildcats

COMPLETIONS

Company, Well, Location—	Initial Production Bbls.	Depth
Gray County—		
C. H. Clark et al Coombs-Worley 1	15	2932
Hutchinson County—		
Prairie Oil & Gas Co. D. Shaw 1..	¶39½	3560

DRILLING REPORT

CARSON COUNTY — American Ref. Co.'s Burnett 1-C, dr 2280 ft; Burnett 1-D, dr 1500 ft. Crosbie Oil Co.'s Burnett 2, spraying 200 bbls oil 2854-69 ft, dr 2885 ft; Burnett 3, rig. Culbertson Bros. et al's Burnett 1, lcn. Gulf Prod. Co.'s Burnett 8, co 2910 ft; Burnett 9, dr 1500 ft. Magnolia Pet. Co.'s Burnett 1-A, sd 1760 ft. Marland Oil Co.'s Burnett 2, dr 780 ft; Burnett 3, rig; Burnett 4, lcn. Olson et al's Burnett 1, sd 2970 ft. Premier Oil Corp.'s Burnett 1, sd making gas 2860 ft. W. W. Silk et al's Burnett 4, set 10 cas 1860 ft; Burnett 5, lcn. The Texas Co.'s Burnett 6, dr 1600 ft; M. C. Burnett 3, reset 6¼ cas 2798 ft.

COLLINGSWORTH COUNTY—Continental Oil Co.'s Hughes Estate 1, lcn in sec 79, H&GN sur, blk 11.

COTTLE COUNTY—T. J. Woodley et al's A. C. Dulaney 1, sd 3005 ft.

DICKENS COUNTY—Mickels et al's Pitchfork 1, sd 350 ft.

GAINES COUNTY — Frank Phelps & Mundy's M. C. Lindsey 1, dr 615 ft.

GRAY COUNTY—A. R. Anderson-Bock et al's Beaver-Bradford 1, sd 2830 ft. Danciger Oil & Ref. Co.'s J. B. Bowers 1-A, dr 2765 ft. W. H. Holmes' J. B. Morse 2, sd 3147 ft. Wilcox Oil & Gas Co.'s Coombs-Worley 2, cemena cave 2810 ft.

HUTCHINSON COUNTY — American Ref. Co.'s Weatherly 1, rig. Amarillo Oil Co.'s L. Bivins 2-B, plug back from 3135 ft to make gasser. W. T. Coble et al's J. A. Whittenburg 1, sd 1700 ft. Dixon Creek Oil Co.'s Smith 2, making 30 million cu. ft gas 2730 ft. Gulf Prod. Co.'s Dial-Perkins 2, swabbing 180 bbls oil 2896 ft. J. H. Middleton et al's J. Weatherly 1, ur 10 cas 2100 ft. New Domain Oil & Gas Co.'s Barton 1, set 6¾ cas 2825 ft. Panhandle Ref. Co. et al's Dial-Perkins 1, co after shot 3060 ft; Dial-Perkins 2, dr rotary 480 ft; Whittenburg 1, lcn. J. R. Phillips et al's W. L. Kingsland 1 and 2, rigs. Western Enterprise Oil & Gas Co.'s Smith 2, rig.

MOORE COUNTY—Amarillo Oil Co.'s Masterson 1-A, sd 2360 ft.

POTTER COUNTY—Amarillo Oil Co.'s W. H. Bush 1, sd 3495 ft; L. Bivens 4-A, rig.

ROBERTS COUNTY — Phil Engle et al's Mrs. Lederick 1, dr 2945 ft.

WHEELER COUNTY—Angus et al's Ember 1, sd 1515 ft. Best Oil & Gas Co.'s Tindall 1, spudding. Globe Oil Co.'s Williams-Laycock 1, making 40 million ft gas 2070 ft. Mid-West Exploration Oil Co.'s (was J. O. Whittington) Williams-Laycock 4, showing oil, reset 6¾ cas at 2086 ft, td 2100 ft; Williams-Laycock 1-A, materials; G. W. Porter 1, sd for fsh tools, showing oil 2148 ft. Three-N Oil Co. (was Nobles) William-Laycock 1, spraying 120 bbls oil dr 2171-76 ft. J. J. Rook et al's H. C. Phillips 1, dr 240 ft. W. D. Sheddon et al's B. F. Westmoreland 1, sd 8¾ cas 2000 ft. Texhoma Oil & Ref. Co. et al's J. H. Jackson 1, sd for storage with 1850 feet oil in hole 2241-43 ft; Jackson 1-A, quick sand trouble 400 ft. Hal Vaughan & Pendleton's P. W. Krey 1, sd for 8¾ cas 1800 ft. Mid-Way Oil Co.'s Williams-Laycock 1, materials. Jim Whittington et al's O. T. Nicholson 1, traces oil broken granite wash pay 2117-2213 ft, dr granite 2325 ft.

Coastal Wildcats

COMPLETIONS

Company, Well, Location—	Initial Production Bbls.	Depth
Harris County—		
Rycade Oil Corp.'s Harris 2.....	*	4050
Fort Bend County—		
Marland Oil Co.'s H. P. Lockwood 3	*	1050

DRILLING REPORT

BRAZORIA COUNTY—D. F. Bryan Production Co. & Hamm et al's Bryan 1, at Freeport, J. G. McNeel sur, oil sand at 3830 ft, preparing to complete.

BRAZOS COUNTY—Bryan Petroleum Co.'s Watthuber 1, 2 miles south College Station, C. Burnett sur, sd at 2500 ft.

FORT BEND COUNTY—Gulf Prod. Co.'s Moore 4, John M. Moore lease, dr 1563 ft. Marland Oil Co. of Texas' H. P. Lockwood 3, sec 3, C. D. Sayre sur, 200 ft to S and E lines, abn 1050 ft. Neilan Oil Co.'s B. Frederick 1, 4½ miles W Rosenberg, sec 19, S. George sur, NW cor rep sd. Pathfinder Oil Co.'s Pinkney 1, 400 ft NE N cor sec 111, 300 ft NE E cor sec 101, 1 mile E Davis & Co. 2, dr 3700 ft. James W. Rich et al's Moore-Hager 2, at Big Creek, 300 ft NE No. 1, SE side of dome, dk. Rycade Oil Corp.'s Flessner 1, 1000 ft S and 150 ft E of NW cor Diedrich-Flessner 200-acre tract, stg surf casing at 856 ft; Fritz Meier 1, 800 ft E of SW cor and 200 ft N of S line of F. Meier 207.7 acre tract, dr 2960 ft; Fritz Meier 2, 1550 ft E of SW cor and 200 ft N of S line of F. Meier 207.7-acre tract, rigging up. Texas Co.'s G. W. Armstrong 1, James Scott sur, 50 ft to N and W lines, SW of Needville, rigging up.

GALVESTON COUNTY—Gulf Prod. Co.'s George E. Smith 3, at High Island, 300 ft E No. 2, digging water well.

GRIMES COUNTY—L. F. McCausland et al's G. W. Dodd 1, 3 miles W Iola, 150-acre tract of Dodd farm, Timothy Jones league, dr 3350 ft.

HARRISON COUNTY—Retrieve Oil Co.'s Sid Westheimer 1, Westheimer dairy farm, 7 miles E Houston, W. Smith sur, 300 ft to N and W lines, setting surface cas at 715 ft, show gas 600-700 ft. Rycade Oil Corp.'s Parker 1, on Greens Bayou, abn 4050 ft. Texas Co.'s Warren 3, 3 miles S Hockley, 750 ft NW No. 2, r 3350 ft.

JACKSON COUNTY — Houston Oil Co.'s Rose & Sample 1, 7 miles W Edna, Rose & Sample tract, dr 2883 ft; Westhoff 1, 1650 ft N & 50 ft W of NE cor George Hecht 200-acre tract, Pedro Gallardo sur, dr 2903 ft. Vanderbilt Pet.Co.'s Seliner 1, 4 miles N Vanderbilt, C. W. Hall subdivision of Harwood Burns ranch, dr 2890 ft.

JEFFERSON COUNTY — Gulf Prod. Co.'s E. Thomas A-1, at Fannette, near Hampshire, dr 863 ft in rock. Houston Oil Co.'s Pipkin 10, 934 ft S Pipkin 5, Pipkin sur, dr 3408 ft; Fanny Crow 1, Crow land, 1550 ft N of S line & 150 ft E of W line, No. 172 T&NO Ry sur, rigging up. Paggi Bros.' Wilson Hdw, Co. 1, ¾ mile SW Miller 1, reported dr below 2850 ft.

MATAGORDA COUNTY—Gulf Prod. Co.'s Craig 1, rigging up. Rycade Oil Corp.'s Gray 3, at Markham, 1050 ft S of NE cor and 500 ft W of E line, blk 2, W. H. Gray land, dr 131 ft. Sheppard Mound Oil Co.'s Hawkins 2, offset to Marland's Murphy 1, 3000 ft E Commonwealth Oil Co.'s Hawkins 1, 1000 ft SE No. 3, dr 1530 ft.

WALKER COUNTY—Big Ridge Oil & Gas Co.'s No. 1, at Weisers Bluff, 14 miles N Huntsville, 12 miles W Riverside, Eastham sur, sd; No. 2, sd; No. 3, 8 miles SW No. 2, between Nelson and South Bedias Creeks, dr 110 ft.

WHARTON COUNTY — Gulf Prod. Co.'s Felder 3, 20 ft to W and 1735 ft to N line blk 3, S Ingram sur, dr 4480 ft. Texas Co.'s Taylor 2, 1100 ft SE No. 1, at Boling, dr 890 ft.

North Texas Wildcats

COMPLETIONS

Company, Well, Location—	Initial Production Bbls.	Depth
Baylor County—		
Brit Cranfill et al Mills 3	*	1428
Lehman et al Shawver 1	*	1854
Texhoma Oil & Ref. Co. Portwood 2.	*	1490
Montague County—		
Owenwood Oil Corp. M. H. Salmon 1	*	1645
Pure Oil Co. W. W. Jones 1	15	895
The Texas Co. N. J. Howard 1....	45	902
M. H. Salmon 1, dd	*	1865
Throckmorton County—		
Texhoma Oil & Ref. Co. Reynolds 2 . . ..¶1½		835
Wilbarger County—		
Consolidated Oil Co. Waggoner 1, sec 7, blk 4	*	2010
Mattylee Lippard et al Waggoner 1	*	2385
C. M. Root et al McCrary 1	*	2400
Texhoma & Holmes Flanniken 1 ..	*	2311

DRILLING REPORT

BAYLOR COUNTY—J. S. Cosden et al's Garner 1, dr 900 ft. Brit Cranfill et al's Mills 4, dr 650 ft. Dallas Oil Co.'s Shawver 1, sd 1885 ft. W. H. Dyer et al's Cox 1, dr 1610 ft. Gulf Prod. Co.'s Mills 1, testing oil pay 1457 ft. Maer-Staniforth's Mills 1, dr 1170 ft. Mills Farm Oil Co.'s Mills 1, dr 1440 ft. Shaw

& Rathke's Mills 1, dr 1215 ft. The Texas Co.'s Mills 1, dr 500 ft.

CLAY COUNTY—Mills Bennett et al's E. L. Holloway 1, testing oil sand 1729 ft. Gulf Prod. Co.'s C. M. Worsham 6, dr 560 ft. Lone Star Gas Co.'s Martin 24, dr 1515 ft; Holloway 131, rig; Holloway 14, dk. John O'Neil et al's J. F. Alcorn 1, dr 2265 ft.

COOKE COUNTY—Big Indian Oil & Dev. Co.'s F. Lester 1, dr 2815 ft. Godley Oil & Gas Co.'s M. E. Florence 1, dr and coring 3250 ft. Elliott & Wallace's E. M. Osborne 1, rig. C. C. Lanier et al's A. Hyman 1, dk. Leonard & Jones' Hamilton 1, sd 1885 ft. Chas. Pettitt et al's Nelson 1, sd 2620 ft; M. F. Williams 1, dk. W. J. Rawson-Lyles et al's Cecil Aldredge 1-A, dr 1660 ft. Red River Drilling Co.'s Jones 1-A, sd 2180 ft. H. S. Simpson et al's G. D. Houston 1, spudding.

DENTON COUNTY — McNeil & Blackstock's T. Wright 1, dr 1215 ft. Gainesville Oil Synd.'s Kate Fontenberry 1, fsh 1380 ft.

FOARD COUNTY—The Texas Co.'s McCoy 1, dr 1265 ft.

GRAYSON COUNTY—The Texas Co.'s G. W. Cannon 1, testing sand 2658-60 ft. Clopton & McMahon's Ida Thorn 1, dr 3110 ft. H. H. Johnson et al's Marshall 1, co 1100 ft. Whitesboro Oil & Dev. Co.'s Jewell-Anderson 1, sd 1350 ft. Zee-Tex Oil Co.'s Griffin 1, sd 2340 ft.

JACK COUNTY—Humphreys Corp. et al's W. C. Campbell 1, near Avis, lcn. Robinson et al's Marshall 1, sd 350 ft.

MONTAGUE COUNTY—Arco Oil Co.'s M. H. Salmon 1, testing oil sand 1391-1405 ft. Daniels-Rutis & Panhandle Ref. Co.'s M. H. Salmon 2, flowing 10 bbls 927-38 ft. Humphreys Corp.'s A. B. Hinton's 1, cas trouble 1844 ft; W. W. Jones 2, fighting gas blowouts 834 ft. Nocona Gas Co.'s R. Hinds 2, dr 415 ft. Pure Oil Co.'s Oldham 1, dr 825 ft. Texhoma Oil & Ref. Co.'s J. E. Lemons 1-A, dr 530 ft; J. W. Rowland 1, lcn; Howard 5, sd 1837 ft. The Texas Co.'s I. Gist 3-A, dd, dr 2155 ft; Gist 4-A, dr 390 ft. Newblock Oil Co.'s J. W. Maddox 1, set 4½ cas acct gas 921 ft. Universal Oil Co.'s S. P. Steadman 1, dk.

THROCKMORTON COUNTY — Domestic Oil Co.'s Goeber 1, dr 920 ft; Howsley 1, dr 775 ft. Flowers Bros. et a l's Travis County Fee 1, dr 1750 ft. Hoffer Oil Corp. et al's Parrott 1, dr 250 ft; Reynolds Cattle Co. 2, sd 1150 ft. Humble Oil & Ref. Co.'s A. S. Harrison 1, dr 650 ft; Harrison 2, dr 830 ft; Stubblefield 2, dr 200 ft. E. M. Jones et al's Rhodes 1, rig. Red Bank Oil Co.'s Graham 1, dr 1320 ft. Reiter-Foster Oil Corp.'s Stubblefield 2, dr 1050 ft. Richardson Bros. et al's Thomas 1, fsh 885 ft. Stiles & Schimmel's Stacey 1, sd 425 ft. Schimmel Oil Co.'s Kelly 1, show gas, sd 2820 ft. Schimmel et al's Putman 1, dr 475 ft. Staley & Wynne's Cole 1 dr 315 ft. Southern Oil Co.'s Key 1, dr 1180 ft. E. L. Smith Oil Co. et al's Burkhalter 1-A, dr 850 ft. Texhoma et al's Graham 1, dr 725 ft. Tucker et al's Reynolds 1, sd 715 ft. Magnolia's L. B. Davis 1, dk.

WILBARGER COUNTY — Atlantic Oil Prod. Co.'s Waggoner-Sigler 1, fsh 1625 ft; Waggoner 2-B, sd 1440 ft. F. A. Beatty et al's Waggoner 1-A, sec 15, ur 1280 ft; Waggoner 1, sec 47, blk 2, dr 2250 ft. Burton-Ruff & Empire's Waggoner 1, dr 2500 ft. Bridwell-Heydrick et al's McCrary 1, ur 1760 ft. Bob Brewer et al's Schmoker 1, sd 2125 ft. W. F. Broughton et al's Waggoner 1, spd and sd. Consolidated Oil Co.'s Waggoner 1, sec 27, co 1800 ft; Waggoner 1, sec 2, blk 4, dr 1240 ft; Waggoner 1, sec 4, blk 5, dr 890 ft; Waggoner 1, sec 50, dr 1680 ft; First State Bank Fee 1, sec 15, blk 5, dr 1985 ft. Culbertson & Orth's W. D. Berry 1, sec 15 blk 12, rog. E. A. Durham et al's Waggoner 1, three million ft gas 1185-90 ft; 1210 ft; Waggoner 2, fsh 1160 ft; Waggoner 2, sd 1275 ft. W. R. Duke et al's Archer 1, dr 1365 ft. J. W. Dyson et al's Waggoner 1, SE corner sec 46, blk 4, swabbed 130 bbls 1871-78 ft. Electra-Texas Oil Co.'s Waggoner 2, dr 1310 ft. Wood W. Graham et al's M. J. George 1, sd 1530 ft. Gulf Prod. Co.'s Waggoner 2-R, sec 50, blk 14, dr 1060 ft. J. L. Giles et al's Rutledge 1, sec 74, blk 14, sd 860 ft. Hoffer Oil Corp. et al's Waggoner 1, sec 43, blk 2, fsh 1370 ft; Waggoner 1, sec 12, blk 14, dr 450 ft. Dan Holmes et al's Richardson 1, sd 1902 ft. Herbert Oil Co.'s Waggoner 1, fsh 1010 ft. Humble Oil & Ref. Co.'s Waggoner 1-D, fsh 675 ft; Waggoner 1-E, rig; Waggoner 1-F, lcn. Independent Oil & Gas Co.'s Reed Ranch 1, sec 33, blk 3, spudding. J. B. Levy et al's Waggoner 2, sec 51, blk 14, sd 2450 ft; Waggoner 1-A, sec 58, blk 4. set 10-inch cas 1225 ft. Lippard et al's Fluhman 1, stuck drill pipe 2150 ft. Mattylee Lippard et al's Waggoner 2, ur cas 1820 ft. C. E. Litchfield et al's Pyle 1, sd 1385 ft. Landreth Prod. Corp.'s Waggoner 1, lcn. E. A. McKanna et al's Waggoner 1, sec 48, blk 4, fsh 1325 ft; Waggoner 1, sec 31, blk 4, dr 1740 ft. Maer-Staniforth's Waggoner 1, sec 4, co 1500 ft; Waggoner 1, sec 10, lcn. McCamey-Sherrin et al's Waggoner 1, ur 1525 ft. Magnolia Pet. Co.'s More-Waggoner 1, sec 59, blk 4, dr 2515 ft. McLester Oil Co.'s Waggoner 1, fsh 1610 ft. Murchison & Fain Oil Co.'s Waggoner 1, spudding. Prairie Oil & Gas Co.'s Waggoner 1-A, sec 45, blk 4, testing oil sand 2320½ ft. Panhandle Ref. Co.'s Key 1, sd 1955 ft. Quaker Oil Co.'s Waggoner 1, spudding. J. F. Shipley et al's B. W. Murphy 1, dr 1740 ft. M. L. V. Smith et al's Waggoner 1, sec 24, dr 900 ft; Waggoner 1, sec 35, dr 1790 ft. W. A. Smith & Mark Kleeden's Castlebury 1, sd 1100 ft. Simms Oil Co.'s Collins 1, sd 1180 ft. States Oil Corp.'s Waggoner 1, sec 13, blk 4, fsh 900 ft. Texhoma & Burton's Waggoner 1, fsh 1540 ft. Texhoma & Holmes' Mrs. A. Thomas 1, sd 1565 ft. The Texas Co.'s Owens 1-A, dr 1110 ft. Tidal Oil Co. et al's Waggoner 1, sec 37, blk 4, dr 1130 ft. W. D. Wells et al's Waggoner 1, sd 1500 ft. G. C. Wood et al's McGill 1, sd 965 ft. Whibert Oil Co.'s Waggoner 1-B, dr 1200 ft; Waggoner 1-C, dr 1575 ft; Waggoner 1-D, dr 1100 ft. Thelma Wells et al's Waggoner 1, dr 900 ft.

San Antonio District Wildcats

COMPLETIONS

Company, Well, Location—	Initia' Production Bbls.	Depth
Jim Hogg—		
Henne, Winch, Farriss' O. W. Killam 3	500	....
Killam-Lang's No. 1	125	....

DRILLING REPORT

BEXAR COUNTY — Humble Oil & Ref. Co.'s N. C. Cassin 1, dr; Menchaca 1, dk. Grayburg Oil Co.'s Palfrey 1, dr 1400 ft.

BASTROP COUNTY — Cardinal Oil Co.'s No. 1, dr. C. V. Patton's Glover 1, dr 2200 ft. Quaker Oil Co.'s Howard Smith 1, dr. Jake Jarmon's Watkins 1, sd for water. Commodore Oil Co.'s Zandy Hart 1, dr 1500 ft.

DUVAL COUNTY — Co-Operative Drilling Co.'s Dinn 1, sd 2070 ft. Associated Oil Co.'s Sutherland 1, lcn. Mesquite Oil Co.'s No. 1, setting liner. Booth Interests' W. R. Peters ranch 1, lcn. O. W. Killam's Benavides 3, dr 2480 ft; Benavides 4, dr 1400 ft. Humble Oil & Ref. Co.'s Pusch 1, dr 2290 ft. United States Gas & Oil Co.'s Peters ranch 3, rigging up.

GUADALUPE COUNTY — L. K. Hughes Dev. Co.'s Allen 20, no report. Allen Burman's Bailey 1, dr 1710 ft. Magnolia Oil Co.'s Nos. 13 and 14, dr. Jennings et al's Vogel 1, dr 1850 ft. Stebbins Oil & Gasoline Co.'s Lenz 1, dk. McClannahan's Herman Lenz 1, dr 1650 ft. Roxana Pet. Co.'s Herman Schmidt 1, dk. Joe Dunning et al's Hugo Vetter 1, dr. J. M. Davis et al's Koch 1, sd for water; Augusta Hoese 1, dr. Scrivner et al's Henry Shyler 1, dk; Vetter 1, dr 550 ft. York Creek Oil Co.'s Fulshear 1, no report.

JIM HOGG COUNTY — Buchanan-Plateau Oil Co.'s No. 4, set cas. Rydal-Rycade Oil Co.'s W. P. Allen 1, sur 21, dr 2190 ft. Simms Oil Co.'s Wood 1, sur 84, dr. J. W. Pippin et al's Palacious 2, sd 1305 ft for supplies. Plateau Oil Co.'s Martinez 5, sd 2066 ft. Daniels & English's No. 1, blk 8, sur 1617, dr. Texas Co.'s Jennings 1, dr below 700 ft. Buchanan et al's No. 4, dr below 1800 ft. Big Bend Oil Co.'s Martinez 5, cemented 6¾-inch casing at 2030 ft; Martinez 6, dr below 1050 ft. Kitselman & St. Alban's Nos. 16 and 17, blk 1, sur 580, dr. Russell-Hoffman's David-Vela ranch 1, dk; Givens 1, rigging up. Mirando Oil Co.'s No. 11, set cas at 2048 ft. San-Tex Oil Co.'s No. 1, sur 262, dr below 1200 ft. Texo Oil Co.'s Lopez 4, dr 1978 ft. Henne-Winch-Farriss' O. W. Killam 3, sur 256, blk 13, producing between 500 and 1000 bbls; Martinez 4, dk. Weber Oil Co.'s Holbein 4, sd 3486 ft. Plateau-Texas-Pacific's Nos. 2, dr; 6, set cas at 2002 ft. Plateau-Wheat's Nos. 3, dk; 4 and 5, lcns. Killam-Lang's No. 1, blk 3, sur 580, producing 125 bbls. O. W. Killam's Vela 1, sd 2103 ft. Elliott-Texas-Pacific's No. 2, dr below 2280 ft.

LIVE OAK COUNTY — Grubstake Investment Assn.'s Nichols 3, no report. Glasscock & Fallin's Charles Tips 1, dr. Southern Natural Gas Co.'s Nos. 9, dr; 10, lcn. Coquet et al's Hicks 1, dr. Ross-Segunda Oil Co.'s No. 3, sur 2253, dr.

ZAPATA COUNTY — H. J. McMullen's Serapio Vela 1, 2 and 3, lcns. R. K. Bateman et al's No. 1, sur 617, dr. Texas Co.'s Cuellar 1, lcn; Jennings 1, rigging up.

Oklahoma Wildcats

ALFALFA COUNTY—McGinnis & Ward's No. 1 Watts, C SE NE SW 21-27-10w, sd 3504 ft.

ATOKA COUNTY—Henson et al's No. 1 Dabney, C SE NW 17-4-11w, sd 3475 ft. Wapanucka Dev. Co.'s No. 1 Underwood, C W L SE SE 28-15-10w, sd 1343 ft.

BLAINE COUNTY—Meyers et al's Chronister 1, SEc NW NW 7-18-15w, sd 960 ft. Okomo Oil Co.'s Ekleman 1, SEc 21-15-10w, sd 2610 ft.

BRYAN COUNTY—Alexander's Hampton 1, SEc NE 26-7-11, sd 1400 ft.

CANADIAN COUNTY — Thos. Revelle's Dawson 1, C SE SE NW 20-26-9w, sd 3065 ft. Carrol et al's Setter 1, SEc 2-13-8w, sd 100 ft. C. D. Jones et al's Sanders 1, C NE NE NE 29-11-7w, sd 880 ft.

CLEVELAND COUNTY—Garr Oil Co.'s Holland 1, NEc SE 31-10-4, sd 2620 ft.

GRANT COUNTY—Embry et al's Edwards 1, C SE SE NW 20-26-4, sd 1000 ft. Midwest & Gulf's Moon 1, NEc NW 8-27-8w, sd 2490 ft. Frank Travers et al's Fuss 1, SWc NW NW 3-27-4w, sd 1250 ft.

HUGHES COUNTY—Mathers & Skelly's McClain 1, C SW SW 4-5-11, sd 3026 ft. Walton, Snyder & Marshall's King 1, C E L NE NW 6-6-10, fsh 3675 ft. Atkins et al's Sewell 1, C SE SW SW 14-7-9, dr 1650 ft. Parmenter et al's Stewart 1, C SW SE 11-5-8, rig. Henry Greis & Kerr's Pearson 1, C SE NE NE 30-5-10, rig.

JEFFERSON COUNTY — Barker et al's Major 1, C SE SW 34-5-6w, spudded and sd. Godley Oil Co.'s Woodworth 1, C NE NW 36-5-4w, sd 1765 ft. Pauline O. & R. Co.'s Graver 1, C NE SW 17-5-8w, dr 1820 ft. Pure Oil Co.'s Howard 1, SWc NE 25-4-11w, dr 550 ft.

KAY COUNTY—Hickman & Brannhard's Sheets 1, C NW SW SE 25-22-2w, fsh 997 ft.

KIOWA COUNTY—Connor et al's No. 2, NEc NW NW 34-7-16w, sd 1200 ft. Alcorn Oil Co.'s No. 1, NEc SE SE SW 13-7-16w, dr 2065 ft. C. E. Reynolds' Smart 1, C E½ SE 12-6-17w, rig.

LINCOLN COUNTY—P. & R. Corp.'s Hanzig 1, NWc SW 14-13-6, dr 2240 ft. Douglas Oil Co.'s Ewing 1, NEc 7-13-3, dr 2410 ft. Eugene Coste & Co.'s Ross-Fortune 1, SEc NW 26-12-2, dr 3938 ft. Wilcox O. & G. Co.'s Smith 1, SEc NW NE 12-12-3, sd 4505 ft. F. O. Howarth's Harris 1, SEc NE 22-15-2, dr 4225 ft. Santrock Drilling Co.'s No. 1, SEc NW 17-15-3, sd 920 ft. Ruby et al's Cull 1, NEc NW 36-15-4, r 3705 ft.

LOGAN COUNTY—Skelly Oil Co.'s Newman 1, NWc NW 32-19-3w, sd 2500 ft. Franklin Oil Assn.'s Moore 1, NWc SE SE 35-7-4w, dr 2510 ft. McMunn & Nixon's Field 1, SWc NE SE 35-7-4w, rig. Haley & Pioneer Pet. Co.'s Quair 1, SWc SE 33-19-3w, sd 270 ft. Blackford O. & G. Co.'s Lair 1, C S L N½ SE 28-16-1w, dr 1290 ft. Magnolia Pet. Co.'s Prichard 1, NWc 23-15-1e, dr 4080 ft.

LOVE COUNTY—Drillers Syndicate Oil Co.'s Wilson 1, NWc SE 11-7-2, sd 2830 ft. Magnolia Pet. Co.'s Crowe 1, C NE NE SE 13-8-2, dr 2490 ft. Smyer & Stein's Gray, C SE SE 12-9-1, rig. Jackson & Askew's

Havenkamp 1, C SW SW NW 27-7-2, dr 1630 ft.

MAJOR COUNTY—Texas Prod. Oil Co.'s Basin 1, SWc 6-22-14w, sd 200 ft. Franz & Slick's Gray 1, C NW 36-21-11w, sd 1000 ft.

PONTOTOC COUNTY—Highland Oil Co.'s Hatcher 1, C NW SW 4-4-5, sd 2285 ft. Dixie Oil Co.'s Moran 1, SW SW NE 33-2-4, dr 500 ft.

POTTAWATOMIE COUNTY — Ossie Oil Co.'s Howell 1, SWc NE 17-10-2, fsh 3363 ft. The Texas Co.'s Allenbaugh 1, SEc SW 3-11-6, sd 810 ft. Davie Detrick's McGathey 1, SEc 10-6-2, sd 3850 ft. H. C. Gwinnup's Floyd 1, SW SE 12-11-3, sd 3655 ft. Pierce Oil Corp.'s Magett 1, NWc 25-10-4, sd 460 ft. McMann Oil Co.'s Heghan 1, SWc NW 19-7-4, sd 100 ft. Halmond Osmond et al's Fiddler 1, SEc NW 4-5-5, sd 545 ft. Central National Oil Co.'s Toney 1, C SW SW SW 28-10-4, sd 750 ft.

ROGER MILLS COUNTY—Twin Hills Oil Co.'s McClure 1, NWc 15-16-26w, sd 4310 ft. Trio Oil Co.'s No. 1, SEc NW SW 3-13-26w, sd 3200 ft.

SEMINOLE COUNTY—Maxwell & Carty's Christie 1, C NE NW 33-6-6, sd 3000 ft. Link Oil Co.'s Caroline 1, C SE NW 14-6-7, sd 2840 ft. Wm. McDougal's Belle Dindy 1, C SE SE 30-6-7, sd 3450 ft. R. F. Garland's Farlin 1, C NE NW 6-6-8, sd 1390 ft. Central National Oil Co.'s Harjo 1, C NE SW NE 14-11-7, sd 3750 ft. Transcontinental Oil Co.'s Davis 1, NE SE 22-7-7, co 3150 ft. Bryan Bros.' Walker 1, C SE SE SE 4-7-6, r 1425 ft. Riverside & Kinney's Nitley 1, C S½ NE SE 24-5-5, rig.

WOODS COUNTY—Victor Oil Co.'s Van Buskirk 1, SWc SE 10-25-15w, sd 960 ft.

WASHITA COUNTY—Meridian Pet. Co.'s No. 1, SE SE SE 14-9-15w, lcn.

Kansas Wildcats

BARBER COUNTY—R. B. Brown's No. 1, NWc 14-34-11w, dr 2000 ft.

BARTON COUNTY—Cheyenne Oil Co.'s Sooy 1, SWc SW 27-18-12w, sd 3525 ft. Haynes et al's Paul 1, NWc 21-12-12w, sd 2100 ft. John Herron's No. 1, SEc NE 22-18-13w, dr 4140 ft. Huffine et al's Smith 1, C NE SW 21-19-12w, sd 1575 ft.

CLARK COUNTY—Watchorn O. & G. Co.'s Morrison 1, SEc NE NE 20-32-21w, set casing 5300 ft, show gas.

CLOUD COUNTY — Livingston's Murdock 1, SEc 6-6-4w, dr 600 ft.

GEARY COUNTY—Liberty-Texas' Wright 1, NEc 9-12-6, sd 750 ft. Liberty-Texas Oil Co.'s Foster 1, NEc SW 3-12-6, sd 2000 ft.

GRAHAM COUNTY—Keyes Bros. & Marine's Thaxton 1, SEc NW 23-8-24w, sd 2000 ft. Gruen & Shiler's Baker 1, NWc SE NW 17-10-24w, rig.

JEFFERSON COUNTY—Northern Counties' Edwards 1, SEc NW NW 13-8-9, sd 3405 ft.

KINGMAN COUNTY—Hale et al's Graber 1, SWc NW 34-27-7w, dr 3353 ft.

LABETTE COUNTY—Ark. Fuel Oil Co.'s Sparks 1, NEc SE SE 14-31-17, sd 1110 ft.

LINCOLN COUNTY—Equite Oil Co.'s Jellison, NWc SE 19-13-9w, set 5-inch 3210 ft. Scott & Collins' Stone 1, SEc SW NE 19-11-6w, sd 500 ft.

MARION COUNTY — Leonard Pet. Co.'s Whaler 1, SEc NE NW 23-19-4, dr 2000 ft.

MITCHELL COUNTY—Wilcox Oil & Gas Co.'s Elders 1, NWc SW NW 23-6-9w, dr 3250 ft.

NEMAHA COUNTY—Nemaha O. & G. Co.'s Meyers 1, NWc 19-3-11, sd 3250 ft.

OSAGE COUNTY—Rodgers & Bittle's Bertha 1, SEc NW 22-17-16, lcn. Mul-Vit Dev. Co.'s Neil 1, NEc NW SW NE 8-17-17, sd 2735 ft. Baker et al's No. 1, C SE SE 3-15-15, sd 260 ft.

RICE COUNTY—Stamey's Barnes 1, SEc NE 21-20-6w, dr 3640 ft. Jasper & Beschka's Walker 1, SWc NE 10-18-6w, co 2200 ft.

RILEY COUNTY—Pawnee O. & G. Co.'s Marks 1, SEc NE NW 26-10-6, sd 2030 ft.

ROOKS COUNTY—Keyes Pet. Co.'s Sandon 1, NWc SW SE 7-8-20w, spudded and sd. C. Findeiss et al's Minx, SWc 25-10-19w, dr 2045 ft.

SALINE COUNTY—Thrall et al's No. 1, SEc NE NW 15-15-4w, sd 1010 ft.

SEDGWICK COUNTY—J. H. Liggett's Funk 1, NEc NW 11-26-1, dr 3075 ft. L. E. Craig et al's Mean 1, NWc NW 26-28-1w, r 3605 ft, hfw. Curtis et al's Duncan 1, SEc NW NW 19-29-1w, rig. Allison & Fitzwilliams' Webb 1, C NE 21-29-3w, spudded and sd.

SEWARD COUNTY—C. T. Dev. Co.'s Woods 1, NWc NE 34-34-34w, sd 700 ft. Seward O. & G. Co.'s Selsey 1, NEc NW 2-33-33, sd 2785 ft.

SUMNER COUNTY—The Texas Co.'s Nixon 1, SWc SE SE 12-35-1, fsh 1475 ft. Foster et al's French 1, NWc 13-31-2, lcn. Phillips Pet. Co.'s Armspiger 1, NWc 17-34-1, sd 3300 ft. Wilcox O. & G. Co.'s Stayton 1, NWc SW 5-32-2w, dr 3325 ft.

TREGO COUNTY—Keyes Pet. Co.'s Davis 1, NEc SW 16-11-25w, sd 3030 ft. Keyes Pet. Co.'s Walsh 1, NWc SE 5-11-25w, sd 1450 ft; Walsh 2, SWc SE SW 5-11-25w, sd 1550 ft.

WABAUNSEE COUNTY—Williams et al's No. 1, NEc SW 15-13-12, sd 3600 ft.

WILSON COUNTY—Rhodes & French's Brown 1, NWc SW NW 2-27-14, dr 980 ft.

WOODSON COUNTY—Mathews et al's Jeffers 1, NWc SE 36-26-15, lcn. Dave Alter et al's Hunt 1, NWc SW 13-25-14, dr 700 ft. Harris et al's Greese 1, NWc SE 35-25-12, lcn.

Louisiana Wildcats

COMPLETIONS

Company, Well and Location	Production Bbls. Initial	Depth
Claiborne Parish—		
Claiborne-Lincoln Synd.'s Fields 3, 22-19-5	*	2848
De Soto Parish—		
Tarver et al's Willett 1, 1-14-10	*	1213
Webster Parish—		
Fortuna Oil Co.'s Nickerson 1, 33-23-10	*	3340

DRILLING REPORT

BIENVLLE PARISH — Evans & Brown's Miles 1, 20-18-7, dr 1190 ft.

BOSSIER PARISH—Best Oil Co.'s Finouef 1, 8-18-12, dr 50 ft. Corbett et al's Murff 1, 18-17-11, dk. Kendrick et al's Webster 1, 9-18-11, dk. Osborne et al's McDade 2, 32-19-11, sd 872 ft. Wilder & Cushman's Lewiston 1, 13-16-12, dr 850 ft.

CADDO PARISH—Dixie Oil Co.'s Dillion 53, 13-21-15, dr 3645 ft; Jolly 1, 27-22-15, dr 3100 ft. Flournoy et al's Simpson 1, 8-16-15, dr 2400 ft. Fortuna Oil Co.'s C. L. B. 2, 8-20-15, gas blow-out dead 2946; Mitchell 1, 17-18-16, dr 2950 ft. Henderson et al's Caldwell 1, 29-22-15, sd 50 ft. Ridge Oil Corp.'s Williams 1, 3-15-15, dk. R. O. Roy & Co.'s Hutchinson 1, 34-16-12, dr 1000 ft. The Texas Co.'s Jeems Bayou 1, 15-20-16, sd 3506 ft. Woodley & Collins' McVea 1, 23-19-14, sd 2580 ft.

CLAIBORNE PARISH — Clark & Melat's Heard 1, 5-21-6, dr 2165 ft. Collins & Woodley's McDonald 1, 26-21-5, dr 980 ft. Evans & McMurphy's Taylor 2, 5-19-5, dk. Triangle Drilling Co.'s Cox 1, 7-19-5, sd 2735 ft; Brown 1, 1-19-6, rig.

DE SOTO PARISH — Fortuna Oil Co.'s Alexander 1, 32-12-15, dr 2685 ft ft; Bishop-Robinson 1, 22-11-12, wosr 2992 ft. Gulf Ref. Co.'s Williams C-18, 31-13-11, coring 2340 ft; 8¼-inch cas set at 2257 ft. Tarver et al's Meadows 1, 2-14-10, rig. Ulrey et al's Scott 1, 21-11-12, dr 1600 ft.

GRANT PARISH—Finn Construction Co.'s Ball 3, 4-7-1w, dr 1910 ft.

JACKSON COUNTY—Big Chief Oil Co.'s Rymes 1, 13-14-4w, fsh 2150 ft.

LA SALLE PARISH — Alexandria-Urania Oil Co.'s State 1, 26-10-1e, dk timbers. Davis et al's Russell 1, 24-10-1e, dk. Ford et al's Tullos 1, 23-10-1e, set 6-inch 1512 ft. Gould & Monroe Drilling Co.'s Harper 1, 23-10-1e, sw 1496 ft. Heard et al's Boyd 1, 28-11-2e, dk. Helm & Burch's Urania 1, 28-11-2e, to set 6-inch 1392 ft. Imperial O. & G. Co.'s Urania 1, 10-10-1e, dr 1345 ft. Jones & Haywood's Kees 1, 7-10-3e, dk. Love et al's Tremont Lumber 1, 30-10-1e, dk. Mitchell et al's Rich 1, 25-8-4, dk. Bill Rowe's Hardtner 1, 19-10-2e, dr 6-inch plug 967, to test sand 965-990; packer did not hold. Urania Pet. Co.s Urania Lumber Co. 7, 19-10-2e, dr 640 ft. Wright et al's Love 1, 16-11-2e, dk.

LINCOLN PARISH—Ruston Drilling Co.'s Richardson 1, 7-18-2w, sd 1100 ft.

OUACHITA PARISH — Dickson & Frue's Goodwin 1, 24-18-2e, sw 2860 ft. Palmer Corp.'s (White) Jones 1, 6-16-5e, dr 6-inch plug 2422 ft.

SABINE PARISH—Emlet et al's Bowman-Hicks 4, 8-7-1w, abn first hole; skidding dk; Bowman-Hicks 5, 9-8-12, abn 2633 ft. Toro Pet. Co.'s Wyatt 1, 18-4-11, dr 600 ft.

UNION PARISH—Simms Oil Co.'s Hammock 1, 22-22-3w, dk.

WEBSTER PARISH — Fortuna Oil Co.'s Bible 1, 8-20-9, fsh 2180 ft. Palmer Corp.'s Davis 1, Cotton Valley deep test, 23-21-10, dr 3085 ft.

WINN PARISH—Hall et al's Nagle 1, 6-10-2w, sd 390 ft. Ohio Oil Co.'s Rowland 1, 5-12-1w, dr 535 ft.

Arkansas Wildcats

COMPLETIONS

Company, Well and Location	Initial Production Bbls.	Depth
La Fayette County—		
Wetherbee et al's Jeffus 1, 8-19-23	*	3160
Ouachita County—		
C. W. Robinson's Polk 1, 16-15-19	*	2355

DRILLING REPORT

BRADLEY COUNTY — The Texas Co.'s Saline Lumber 1, 11-17-10, dr 60 ft.

CALHOUN COUNTY — Klotz & Thomas' Forest City Box 1, 14-16-14, dr 2000 ft. Murdock et al's Eagle Mills 1, 29-12-15, sd for water 1717 ft.

COLUMBIA COUNTY—Arkansas Fuel Oil Co.'s Longino-Goode 1, 14-18-20, dr 1965 ft. Greeson et al's Pearce 1, 3-18-10, dr 600 ft. Gulf Ref. Co.'s Hines 1, 17-17-18, dk. Meier et al's Gantt 1, 15-17-22, dk. Phillips et al's Davis 1, 14-18-21, set 6-inch 2702 ft. Pluto Oil Co.'s Dickens 1, 20-18-22, dk; Robinson 2, 23-18-23, coring 705 ft. Wingfield & Mitchell's Bodcau Lumber 1, 4-20-21, sd 2024 ft.

DREW COUNTY—Graves et al's Karnes 1, 10-13-6, dr 2675 ft. McClintock et al's Ogle 1, 35-13-5, set 10-inch 200 ft. Spooner et al's Meyer 1, 4-16-17, sd 50 ft.

HEMPSTEAD COUNTY—Grassy Lake Oil Assn.'s Gun Club 1, 27-12-27, sd 2100 ft. Tarver et al's Swafford 1, 14-11-25, dk timbers. Zingg et al's Sutton 1, 9-11-23, dr 700 ft. Wooten et al's Clarke 1, 22-11-24, sd 2040 ft.

LA FAYETTE COUNTY—Estes & Oliver's Bodcau 1, 13-18-24, dr 1375 ft. Ken-Saw pet. Co.'s Red River Valley 2, 3-20-24, dr 2440 ft. Humble O. & R. Co.'s Johnson 1, 23-16-25, rig.

LITTLE RIVER COUNTY — Grote et al's Allen 1, 2-13-29, ur 6-inch 2800 ft. Johnson et al's Hawkins 1, 10-11-31, sd 1350 ft.

MILLER COUNTY—Copeland et al's Wiseman, 1, 36-15-27, sd for water 1000 ft. Davidson et al's Faulk 1, 27-17-27, dr 60 ft, Gillespie et al's Fee 1, 2-15-26, drilling water well, to resume dr 150 ft. Humble O. & R. Co.'s Goodson 1, 30-16-17, dr 360 ft.

NEVADA COUNTY—Falcon Drilling Co.'s Weaver 1, 6-13-21, rig. Greeson et al's Ellis 1, 2-15-21, rig. Humble O. & R. Co.'s Taylor 1, 11-15-22, coring 1315 ft. Steele et al's Fincher 1, 9-15-22, dk timbers. White et al's Hamilton 1, 34-14-22, dr 875 ft.

OUACHITA COUNTY — Buffalo Oil Co.'s Morgan 1, 22-15-19, set 6-inch 2115 ft. Jones et al's Wilson 1, 26-15-18, sw 2313 ft; trying to pull packer; to set 5 3/16-inch cas and retest. Lown et al's Burton 1, 30-15-17, dr 2400 ft.

PIKE COUNTY—Strawn et al's Banks 1, 11-8-25, coring 221 ft.

UNION COUNTY—Liberty Oil Co.'s Davis 1, 31-16-14, r 2800 ft. Magnolia Pet. Co.'s Chandler 1, 4-19-14, dr 2685 ft. Ohio Oil Co.'s Arkansas Timber 1, 21-18-10, rig. Ward et al's Goodwin 1, 16-16-14, sdtr 2580 ft.

PERMITS GRANTED FOR NEW WELLS

Weekly Comparison of New Wells

Following is a condensed table giving a comparison of permits or locations made for new wells in Kansas, Oklahoma, Arkansas, Louisiana, Texas and California:

	Number of Wells for Week Ending															
	Mar. 6	Mar. 13	Mar. 20	Mar. 27	April 3	April 10	April 17	April 24	May 1	May 8	May 15	May 22	May 29	June 5	June 12	June 19
Kansas .	82	24	36	55	34	23	37	38	26	32	32	27	29	44	40	19
Oklahoma	100	94	94	73	115	107	96	82	81	86	94	95	114	106	93	104
Arkansas	30	67	55	80	54	55	34	64	60	49	31	77	62	67	40	64
Louisiana	9	14	14	14	4	9	14	20	7	10	7	12	8	16	18	8
Texas . .	189	210	218	198	187	214	213	215	147	144	208	130	167	221	198	204
California	12	40	24	36	42	26	28	40	27	26	34	29	33	24	33	37
Total .	422	449	441	456	436	434	422	459	348	347	406	370	413	478	422	436

ARKANSAS

Columbia County—Gulf Ref. Co.'s Hines 1, 17-17-18, 330 ft N and 970 ft W of SEc of section.

Hempstead County—Allie Tarver et al's Swafford 1, 14-11-25, SEc NW¼ SE¼.

La Fayette County—Humble O. & R. Co.'s Johnson 1, 23-16-25, NWc SE¼.

Miller County—Humble O. & R. Co.'s Goodson 1, 30-16-27, NEc SW¼ NW¼.

Ouachita County — Bailey-Murray Oil Co.'s Rhoten B-1, 32-15-15, NEc S½ SW¼ NW¼, old well to be deepened; Rhoten B-2, 32-15-15, center of west line S½ SW¼ NW¼, old well to be deepened. J. E. Crosby's Berry 1, 33-15-15, SWc SE¼ NW¼. Duho Oil Co.'s McKenzie A-1, 36-15-16, 150 ft N and 360 ft W of SEc NW¼ NE¼. Gulf Ref. Co.'s Flenniken 16, 5-16-15, 2290 ft N and 990 ft E of SWc of section; Goodwin 7, 32-15-15, 990 ft N and 330 ft E of SWc of section; J. Goodwin 2, 32-15-15, 300 ft S and W of NEc NE¼ SW¼, old well to be deepened. Howell et al's Williams 5, 3-16-15, NWc Lot 3 NE¼. Humble O. & R. Co.'s Jones-Umstead 3, 4-16-15, 200 ft N and W of SEc N½ Lot 3 in NW¼, old well to be deepened. F. A. & B. T. Laney 4, 31-15-15, 330 ft S and W of NEc NE¼ SE¼; 8, 32-15-15, 300 ft S and E of NWc NW¼ SW¼, old wells to be deepened; 9, 31-15-15, NWc NE¼ SE¼; F. Murphy 4, 3-16-15, center of north line Lot 1 NW¼; 5, 3-16-15, NEc Lot 1 NW¼. Louisiana O. R. Corp.'s Alexander 2, 22-15-17, 200 ft N and W of SEc NE¼ SW¼. Marion Oil Co.'s Hayes 7, 4-16-15, NEc Lot 3 in NE¼. J. H. Meeks Trust's Laney 5, 31-15-15, center of south line E½ NW¼ NE¼. Pure Oil Co.'s Brister 5, 28-15-15, 200 ft N and E of SWc, old well to be deepened. Roxana Pet. Corp.'s Williams 4, 32-15-15, 275 ft N and 330 ft W of SEc NW¼ SE¼. Simms Oil Co.'s Hildebrand 8, 28-15-15, center south line SE¼ SE¼; Hirsch 5, 31-15-15, 330 ft N and E of SWc NE¼ NE¼. Standard Oil Co.'s H. Murphy 10, 5-16-15, 200 ft N and W of SEc N½ NE¼ SE¼; H. Murphy 15, 5-16-15, 250 ft N and 200 ft E of SWc NE¼ SE¼; Murphy B-7, 29-15-15, center of south line NE¼ SE¼; Powell 5, 34-15-15, 200 ft S and 330 ft E of NWc SE¼ NW¼; Umstead 23, 32-15-15, 200 ft S and E of NWc NW¼ SE¼. Sun Oil Co.'s Johnson 5, 30-15-15, 200 ft N and W of SEc. Texas Pacific Coal & Oil Co.'s Laney 6, 31-15-15, SWc SE¼ NE¼; Laney 7, 31-15-15, 280 ft N and W of SEc SE¼ NE¼. C. W. White's Watts 1, 26-15-15, SWc NW¼ SE¼. Woodley Pet. Co.'s Umstead 7, 4-16-15, 100 ft N and 200 ft E of SWc N½ Lot 5 in NW¼.

Union County—Amerada Pet. Corp.'s Flenniken 10, 6-16-15, 150 ft S and E of center. Broderick & Calvert's Bradford 1, 8-16-15, 150 ft S and E of NWc N½ NW¼ NW¼, old well to be deepened. Brooks Trust's Murphy 1, 13-16-16, NEc SW¼ NW¼. W. H. Gilliland's Rice 1, 7-16-15, NEc NW¼ NW¼. Gulf Ref. Co.'s Alphin 12, 10-16-15, 1520 ft S and 200 ft W of NEc; Flenniken 13, 5-16-15, 1680 ft N and 990 ft E of SWc; Flenniken 14, 5-16-15, 1680 ft N and 330 ft E of SWc; Flenniken 15, 5-16-15, 2593 ft N and 513 ft E of SWc; Howard 1, 13-16-16, 200 ft S and W of NEc NE¼ NW¼; G. E. Murphy 7, 8-16-15, 330 ft N and E of SWc NW¼; T. C. Murphy 17, 9-16-15, 300 ft S and 1120 ft W of NEc SE¼; T. C. Murphy 18, 9-16-15, 890 ft N and 1120 ft W of SEc. Humble O. & R. Co.'s Pate 5, 10-16-15, NEc NE¼ NW¼; Pate 9, 10-16-15, SEc NE¼ NW¼. Lion O. & R. Co.'s Murphy E-3, 8-16-15, NWc SE¼ SE¼; Murphy E-4, 8-16-15, SWc N½ SE¼ SE¼. O. G. Murphy's T. C. Murphy A-3, 9-16-15, SWc SW¼ SE¼. Ohio Oil Co.'s Pate 3, 10-16-15, old well to be deepened. Pure Oil Co.'s Bilyieu 5, 8-16-15, center of east line NE¼ NE¼; Friend 1, 6-16-15, 200 ft N and E of SWc SW¼ SE¼, old well to be deepened; Friend 4, 6-16-15, 200 ft S and W of NEc SW¼ SE¼, old well to be deepened; Meriweather 4, 6-16-15, 330 ft N and E of SWc NE¼ SW¼. Richardson et al's Bradford 2, 8-16-15, SWc NW¼ NW¼. Rowe-Daniels Synd.'s Tatum 1, 7-16-15, 130 ft E and 200 ft S of NWc NW¼ NE¼, old well to be deepened. Standard Oil Co.'s H. Murphy 28, 9-16-15, 200 ft S and W of NEc; H. Murphy 32, 4-16-15, 335 ft N and 266 ft E of SWc NW¼ SW¼; H. Murphy 33, 4-16-15, 1325 ft N and 660 ft E of SWc. Sun Oil Co.'s McClanahan 1, 1-16-16, 200 ft S and W of NEc NE¼ SE¼, old well to be deepened. Sutton et al's Wingfield 1, 5-16-15, 335 ft N and 425 ft W of SEc NW¼ SE¼. Thurmond et al's Wilson 4, 6-16-15, NWc SE¼ SW¼.

CALIFORNIA

Cat Canyon Field—Palmer Union Oil Co.'s Stendell 5, 30-9-32.

Conejo Field—C. A. Harding Trustee No. 44, 33-2-20; No. 12, 34-2-20.

Elk Hills Field—Pacific Oil Co.'s No. 24, 27-30-24.

Huntington Beach Field—Standard Oil Co.'s Santa Ana Gardens 1, 27-5-11.

Inglewood Field—Petroleum Securities Co.'s Lloyd 6, 8-2-14. Mohawk Oil & Gas Synd.'s No. 4, 7-2-14. Standard Oil Co.'s Vickers 14, 8-2-14. Shell Co.'s Rindge 7, 8-2-14; Rindge 8, 8-2-14.

Kern County Field—Standard Oil Co.'s S. F. & Fresno Land Co.'s No. 1, 12-25-19; Lazard 1, 36-26-19. George F. Getty's Dale 1, 28-27-27; Grimes 1, 32-27-27; Tegeler 1, 22-28-27.

Kings County Field—Lois D. Fay's No. 1, 28-23-19.

Long Beach Field—Cook Oil Co.'s No. 1, 24-4-13. Petroleum Midway Co. Ltd.'s Fields 16, 19-4-12. J. E. O'Donnell's O'Donnell 41, 24-4-13. **Weaver Bros.' No. 1, 24-4-13.**

Midway Field—Honolulu Cons. Oil Co.'s No. 73, 4-32-24; No. 89, 6-32-24; No. 14, 4-32-24. Manley & McGinn's No. 16, 15-31-22. Pacific Oil Co.'s No. 1, 29-31-24.

Newport Field—Barnett Rosenberg's Fairview Farms 1, 17-6-10. F. A. Winchester's No. 2, 23-6-10.

Rosecrans Field — Petroleum Midway Co. Ltd.'s Kreitz Comm. 2, 7-3-13.

San Mateo County Field—La Honda Oil Field Assn.'s No. 3, —7-4.

Torrance Field—C. C. M. Oil Co.'s Del Amo 37, 9-4-14; Del Amo 105, 9-4-14; Del Amo 106, 9-4-14. Marine Corp.'s No. 52, 25-4-14.

Ventura Field—J. A. Hess' No. 18, 4-3-23; No. 1-A, 34-4-23. Shell Co.'s Gosnell 10, 28-3-23.

Whittier Field—Walter P. Temple Oil Co.'s Prouty 1, 30-2-10.

LOUISIANA

Caddo Parish—Texas & Pacific Ry Co.'s R. & P. Ry Co. 1, 15-17n-14w, 228 ft E and 240 ft N of SW Cor. of Sec.

Calcasieu Parish — Vacuum Oil Co.'s Lock Moore 3, 10-10s-9w, 1725 ft E and 300 ft N of SW Cor. of NW¼.

Cameron Parish—The Pure Oil Co.'s Sweet Lake Land Oil Co. 2, 12-13s-8w, 1601 ft S and 2364 ft E of NW Cor. of Sec.

Jefferson Davis Parish—Yount-Lee Oil Co.'s Welsh Oil and Land Dev. Co. 1, 21-9s-5w, 1196 ft N and 162 ft W of SE Cor. of Sec.

Red River Parish—A. H. Tarver's Meadows 1, 2-14n-10w, 200 ft E and 100 ft S of NW Cor. NE¼ of NW¼.

Union Parish—Roxana Pet.s Hammock 1, 22-22n-3w, 297 ft W and 53 ft N of SE Cor. NE¼ of SW¼.

Vermillion Parish—United Oil & Gas Synd. Inc.'s LaBlanc 2, 63-12s-5e, 2050 ft S of NE point of Sec. 63 and 70 ft E of road.

Webster Parish—Alabama Pet. Co.'s Robbins 1, 21-21n-10w, 330 ft N and 330 ft E of SW Cor. SE¼ of SW¼.

KANSAS

Butler County—Hoyt et al's Harden 2, NWc SE SE 21-24-3. Abell & Rhodes' No. 1 Henley, SWc NW 9-24-8. Connelly et al's No. 1 Betts, SEc NE 25-25-4.

Cowley County—Roxana Pet. Co.'s No. 1-A Spreun, NWc SW 10-33-3. Waite Phillips & Marland's No. 6 Caldwell, SEc NW 28-33-3.

Greenwood County—Titus et al's No. 6 Prather, NE NW NW 29-22-10; No. 1 Browning, NEc NW NE 30-22-10. Empire G. & F. Co.'s No. 4 Kipfer, SWc SE SE 11-22-11. Empire No. 1 Scott, SE SE 24-23-8. Skelly Oil Co.'s No. 5 Shambaugh, NWc SE NW 2-23-9. Roth & Mission Oil Co.'s No. 4-B. Scott, SEc NW SE SW 23-23-10; No. 51 Thrall, NEc NW SE SW 23-23-10; No. 55 Thrall, C E L SW 23-23-10. Phillips Pet. Co.'s No. 4 Thrall, SWc 29-23-10. Brice et al's No. 1 Jensen, SEc NW 19-23-12. Phillips Pet. Co.'s No. 1 Wiggens, SWc SE NW 30-24-11. Franklin Oil Co.'s No. 4 Johnson, C E L SE SE 15-24-12. H. J. Wilson's No. 1 Robinson, SWc SE 5-25-10.

Marion County—Ramsey et al's No. 1 Loloutte, SWc NE 34-20-5.

OKLAHOMA

Kay County—Cosden Oil & Gas Co.'s, of Tulsa, No. 1 Schooland, C SE SE SW 16-29-1w. Herbert Oil Co.'s of Ft. Worth, Texas, No. 3 Townsite, NEc SE SW SW 5-28-1w. Comar Oil Co. of Tulsa, No. 3 Bechtel, C N L SE SE SW 5-28-1w. Joe Cain et al, No. 1 Townsite, blk 17, lot 24, NWc SE NE SW NW 8-28-1w. Canadian Pet. Co.'s No. 1 Townsite, blk 6, lot 24, SWc NW NW NW 8-28-1w. Lassen et al's No. 1 Townsite, blk 24, lot 3, C S L NW SE NW NW 8-28-1w. L. & M. Oil Co.'s No. 1 Townsite, blk 24, lot 25, SWc NW 8-28-1w. Comar Oil Co.'s No. 1 Horne, NEc SW 8-28-1w. Mutual Oil Co.'s of Tulsa, No. 2 Richmond, SWc NE NW 1-26-2w. Mutual Oil Co.'s No. 3 Richmond, C SE NW NW 1-26-2w. Harris & Hahn's No. 1 Sodowsky, SWc SE NW 12-26-1w. Cosden Oil & Gas Co.'s No. 1 Schooland, SEc NE 16-25-2w. Comar Oil Co.'s No. 1 Hallman, C SW SW NW 15-25-2w. Sinclair Oil & Gas Co.'s of Tulsa, No. 1 Birdsell, C NW NE NE 22-25-2w. Comar Oil Co.'s No. 16W Beverlin, C NE SW NW 34-25-1w.

Garfield County—Mid-Continent Pet. Corp.'s of Tulsa, No. 9 Wishard, C SE SW SE 12-22-4w (owd. Cosden & Marland's No. 48 Schooland, NEc SW NE SE 13-22-4w; No. 49 Schooland, C E L W½ E½ SE 13-22-4w; No. 50 Schooland, SEc NW SE SE 13-22-4w; No. 51 Schooland, SEc SW SE SE 13-22-4w; No. 52 Schooland, C N L SE 13-22-4w. Sinclair Oil & Gas Co.'s No. 21 Walker, C S L NE 13-22-4w; No. 2 Davis, C E L NE 23-22-4w; No. 33 Belveal, C N L NE NE 24-22-4w; No. 11 Frickenschmidt, C S L SW SW 25-22-4w. Ben Franks' No. 3 Allen, C NE SW SE 16-22-3w. Roxana Pet. Co.'s of Tulsa, No. 2-A Schroeder, C SE SW SW 18-22-3w, (owd); No. 26 Schroeder NWc SE NW SW 18-22-3w; No. 27 Schroeder, SWc SE NW SW 18-22-3w.

Noble County—Red Bank Oil Co.'s of Tulsa, No. 1 Haufman, C SE SW SW 16-21-2w. Magnolia Pet. Co. of Dallas, Texas, and Bu-Vi-Bar Pet. Co.'s of Tulsa, No. 1 Wooleson, C NE NE NE 21-21-2w.

Pawnee County—Magnolia Pet. Co.'s of Dallas, Texas, No. 1 Canfield, SWc SE SE 29-20-6. McMann et al's No. 2 Hennessy, NEc NW SW 24-20-8. Southwestern Oil Fields Corp.'s No. 16 Wasson, C S L SW NW 24-20-8.

Creek County—Aztec Oil Co.'s of Tulsa, No. 5 Johnson, C SE SE 14-17-8. Skelly & Billingslea's of Tulsa, No. 4 Incus, NWc 31-15-9. Cumberland Oil Co.'s No. 1 Harry, NEc 28-15-10. C. F. Noble's No. 4 Stuart, NEc NW 20-14-10.

Tulsa County—Holmes et al's No. 2 Robinson, NWc SE NW 14-19-10. Greer et al's No. 1 Steele, NEc SW SW 23-19-11. Riveland Oil Co.'s No. 3 Gaylord, SWc SE SE 27-19-11; No. 4 Inchoe, NWc NE NE 34-19-11. Sand Springs Home of Sand Springs, No. 1 A. H. K., SEc NE NW 15-19-12.

Okfuskee County—Sinclair Oil & Gas Co.'s of Tulsa, No. 1 Byrd, NWc SE 23-13-7. McMahan & Kingwood Oil Co.'s of Okmulgee, No. 2-A Rentie, NE SE NE 36-12-11. Eagle Picher Lead Co.'s No. 1 Yahola, NEc SW 25-11-9. Cosden Oil & Gas Co.'s of Tulsa, No. 3 Fields, NEc SE SE 3-11-11. Fred Cusek's No. 8 Hopwood, twin, NEc NW NE 11-11-11. Windsor Oil Co.'s No. 2 Guy, NWc SE SW 22-11-11; No. 5 Guy, SWc NE SW 22-11-11.

Okmulgee County—Wilcox et al's No. 2 Anthis, NWc SE SW 1-16-11. Wilcox & Oswalt's No. 4 I. B. Anthis, SEc NW SW 1-16-11. Amerada Pet. Corp.'s of Tulsa, No. 1 Gibson, NEc SE SW 17-15-11. Magnolia Pet. Co.'s of Dallas, No. 1 Bird, SEc NW NE 5-12-12. Moffitt et al's No. 3 Holmes, SEc NW NE 7-11-12. W. E. Sturtevant's No. 2 Brown, NWc SE SW 1-11-13. M. Inturff's No. 1 Hawkins, NWc SW SE 20-12-14. Iron Mountain Oil Co.'s No. 15 Johnson, C E L NW SE 24-13-14; No. 8 Thornberry, SWc SE NW 24-13-14. Elm Oil Co.'s No. 1 Fields, SEc NW SE 13-14-14 (owd).

Wagoner County—W. D. Egoff's of Muskogee, No. 4 J. Wilson, C W L SW NW 30-17-17.

Seminole County — Carter & Pulaski's of Tulsa, No. 5 S. Williams, C NE NE NW 33-11-8. Tidal-Osage Oil Co.'s of Tulsa, No. 3 Baker, C SW NW NE 8-10-8. The Texas Co.'s of Houston, Texas, No. 1 Thomas, C NE NE SW 15-8-7. W. R. Ramsey No. 4 Amos, C SE SE SE 31-8-8. Magnolia Pet. Co.'s No. 1 Harjo, C NW NW NW 5-7-8. Champlin & Bass' No. 2 Davis, C NE NE NE 6-7-8.

Hughes County—Atlantic & Bass' No. 1 Anderson, C NE SE SW 1-9-9; No. 2 Anderson, C NW SE SW 1-9-9. Independent O. & G. Co.'s of Okmulgee, No. 2 Anderson, C NE SW SW 1-9-9. McMann Oil Co.'s No. 1 Jefferson, C NE NW NE 2-7-8.

Oklahoma County—Maxine Pet. Co.'s No. 1 Miller, SWc 9-14-1w.

Stephens County—Crump & Beard's No. 1 Clark, NWc NE NE SW 25-1s-9w. Ellis Drlg. Co.'s No. 6 Bridenthal, C E L SE SE 19-1s-8w. Crump & Beard's No. 2-A Eakes, SEc NE NE SW 32-1s-8w. Lorraine Oil Co.'s No. 1 Potts, SEc SW 32-1s-8w. Magnolia Pet. Co.'s No. 15 Ziegler, NEc SE SE SW 34-1s-5w. Mid-Kansas O. & G. Co.'s of Tulsa, No. 3 Barnett, C NE NW NW 19-2s-7w.

Carter County—Magnolia Pet. Co.'s No. 9 Smith, C NE NW SW 24-2s-3w. Cameron Ref. Co.'s No. 1 Walker-Vorhees, C SW NE SW 24-2s-3w. Coline Oil Co.'s No. 2 Higgin, C SW SW NE 7-2s-2w. Humble O. & R. Co.'s of Houston, Texas, No. 3 Bruens, C NE NW SW 32-2s-2w. Merrick-Cameron Ref. Co.'s No. 5 Mover, C NW SW NE 8-3s-2w. Amerada Pet. Corp.'s of Tulsa, No. 9 Fish, C S L NE SE 28-5s-1e. Iowa Dev. Co.'s No. 2 Baptiste, NE SW NW 28-5s-1. Amerada & Westheimer's No. 1 SEc NW 28-5s-1.

Osage County—Westland Oil Co.'s No. 1, NE NW SE 24-20-12. Skelly Oil Co.'s of Tulsa, No. 2-A, NE SE NE NE 2-21-8. Skelly Oil Co.'s No. 4-A, NEc 2-21-8. Mid-Kansas Oil & Gas Co.'s of Tulsa, No. 1, SWc NW 11-21-10; Connelly No. 3, SE SW SE SE 14-21-10. Henry Oil Co.'s No. 14, SE NW NE NW 3-21-12. Fidelity Oil Co.'s No. 10, SE NE 16-21-12. Skelly Oil Co.'s No. 10, C SE NE NW 16-21-12. Sterling Oil Co.'s No. 1, NE SE 16-21-12. Atlantic Oil Co.'s No. 4, NW SW NW SE 8-22-9. Tidal Oil Co.'s No. 19, SW SE SW SW 27-22-10. Tidal-Osage Oil Co.'s No. 1, NEc 21-24-9. Western American Oil Co.'s No. 1, SEc 21-24-10. I. T. I. O. Co.'s No. 1, NW SE 36-25-6. Phillips Pet. Co.'s No. 16, NEc 18-27-6 Owen Osage Oil Co.'s No. 330, SW SE SW 8-27-11. Beacon Oil Co.'s No. 1, NEc 6-28-12. Sinclair Oil & Gas Co.'s No. 1, NE SW 6-27-7.

TEXAS

Archer County—Texhoma Oil & Ref. Co.'s, Wichita Falls, Texas, W. H. Taylor 3, B 488, Amer Trib sur, 400 ft S No. 3; W. P. Ferguson 5, S. P. Ry sur, 150 ft to N and 450 ft to E line. Gulf Production Co.'s, Ft. Worth, J. F. Rogers 5, 2406 TE&L sur, 315 ft E No. 4. Consolidated Oil Co.'s of Texas, Wichita Falls, J. H. Turbeville 1, B 1, J. C. S. L. sur, 150 ft to N and W lines. Sunshine State Oil & Ref. Co.'s, Wichita Falls, W. P. Ferguson 11, No. 1 S. P. Ry sur, 150 ft to E in center of line. Fisher & Gilliland's, City Nat. Bank Bldg., Wichita Falls, J. F. Rogers 6, 2407 TE&L sur, 670 ft W No. 2. Texas Co.'s, Wichita Falls, J. T. Richardson 4, S. Anderson sur, 450 ft to N and 150 ft to W line. Prairie Oil & Gas Co.'s, Ranger, Texas, L. F. Wilson 13, B 27, Amer Trib sur, 321 ft E No. 11; J. T. Richardson 22, J. L. Anderson sur, 772 ft N No. 1; R. J. Andrews 1, 2437 TE&L sur, 155 ft to E and 1668 ft to S line. Wichtex Oil Co.'s, Waggoner Bldg., Wichita Falls, L. F. Wilson 5, B 29, Amer Trib sur, 300 ft S No. 4. Shaw & Rathke's, Wichita Falls, W. O. Payte 9, 1598 TE&L sur, 150 ft to E and 450 ft to S line. Bridwell & Mayfield's, Wichita Falls, J. T. Richardson 22, S 9, J. L. Anderson sur, 584 ft to N and 2074 ft to W line; 23, 400 ft E 22. F. C. Fastnow's, William & Mary Hotel, Wichita Falls, L. F. Wilson 1, S 53, Amer Trib sur, 150 ft to N and E lines. Humble Oil & Ref. Co.'s, Wichita Falls, H. Brom 2, 1582 TE&L sur, 300 ft W No. 1; G. B. Hamilton 2, S1, Crawford sur, 300 ft S No. 1; 3, same sur, 335 ft N No. 1. Marland Oil Co.'s, Cotton Exchange Bldg., Houston, Texas, Mrs. J. Krupka 1, J. Scott sur, 3200 ft to E and 6800 ft to S line. E. A. Reilly's, Cotton Exchange Bldg., Ft. Worth, Hays & Hilders 1, B 1, Clark & Plumb sur, 300 ft to N and W lines. Wirt Franklin's, Ardmore, Okla., W. F. Parrish 13, S 26, H&TC Ry sur, 340 ft N No. 7. Riner & Bailey's, Wichita Falls, L. F. Wilson 24, B 29, Amer Trib sur, 150 ft to S and E lines. Empire Gas & Fuel Co.'s, Staley Bldg., Wichita Falls, L. F. Wilson 23, S 7, Amer Trib sur, 300 ft N No. 2. Woodburn Oil Corp.'s, Dallas, L. F. Wilson 19, S 26, Amer Trib sur, 340 ft W No. 17. B. F. Whitehill's, Box 881, Tulsa, Okla., H. S. Morrison 17, B 4, D. C. S. L. sur, No 3, 300 ft E No. 13. J. Ferguson et al's, 1322 Britton St., Wichita Falls, C. A. Meyers 1, B 252, Amer Trib sur, 150 ft to S and W lines. A. T. Strong et al's, City Nat. Bank Bldg., Wichita Falls, Oil Inv. Co. 2, B 125, J. W. Harris sur, SE Cor. Ray Featherston Oil Co.'s Inc.., Staley Bldg., Wichita Falls, A. P. Nichols 10, B 30, Amer Trib sur, 150 ft to N and 1050 ft to E line. R. R. Clark's, 2001 Lucille St., Wichita Falls, R. C. Kinder 1, S 49, Clark & Plumb sur, 150 ft to N and E lines. G. W. Cooper's, Wichita Falls, J. J. Brockhauser 1, B 4, Clark & Plumb sur, 150 ft to N and W lines. Magnolia Pet. Co.'s, Dallas, Llewellyn 8, J. Llewellyn sur. E. J. Stump & Co.'s, Box 145, Wichita Falls, J. E. Dale 1, B 8, Work Houssells sur, 150 ft to N and W lines.

Atascosa County—Frontier Oil Co.'s, San Antonio, Harvey 10, S 520, J. P. McKinney sur; 11, same sur.

Baylor County—Richards & Sheldon's, Megargel, Texas, Mills 2, 2428 TE&L sur, 872 ft to N and 150 ft to E line. Maer & Staniforth's, City Nat. Bank Bldg., Wichita Falls, W. B. Mills 1, 2428 TE&L sur, 150 ft to N and W lines. British American Oil Prod. Co.'s, Wichita Falls, Haggard 1, S 187, BBB&C Ry sur, 150 ft to N and W lines. Maer & Staniforth's, Wichita Falls, Texas, W. B. Mills 1, 2428 TE&L sur, 150 ft to N and W lines. Shaw & Rathke's, Wichita Falls, W. B. Mills 1, 2428 TE&L sur, 150 ft to S and W lines.

Bexar County—Helvetia Oil Co.'s, San Antonio, S. Smith 13, SW Cor; 15, East of No. 11. W. L. McClanahan's, Travis Bldg., San Antonio, E. Sodrock 1, J. Pena No. 9 sur, 1100 ft to W and 150 ft to N line.

Bee County—W. B. French's, Travis Bldg., San Antonio, R. P. Lucas 1, S 13, C. W. Hall sur, 350 ft to N and E lines.

Brown County—Prairie Oil & Gas Co.'s, Ranger, Texas, G. B. Gaines 6, W. M. Miller sur, 430 ft S No. 4. J. F. Mendenhall et al's, Cross Cut, Texas, J. W. Newton 5, Wm. Miller sur, 300 ft N No. 1.

Callahan County—Parkersburg Drilling Co.'s, Box 19, Cisco, L. H. Qualls 24, 2279 TE&L sur, 350 ft S No. 6. H. Slicker's, Box 368, Eastland, Diller Bros. 1, S 53, L. A. L. sur, 150 ft to N and E lines; 2, same sur, 150 ft to N and W lines. Canyon Oil & Gas Co. Inc.'s, Cross Plains, M. Kennedy 2, Bayland Asy sur, 300 ft S No. 1. Kemp & Underwood's, Box 415, Cisco, C. Grisham 1, 2300 TE&L sur, 150 ft to N and E lines. Moutray Oil Co.'s, Cisco, Diller Bros. 3, S 48, L. A. L. sur, 150 ft to E in center of line; T. H. Weddington 10, S 4, Bayland Asy sur, NW Cor. Wittmer Property Trustees', Putnam, Mrs. R. D. Williams 24, S 1, T&P Ry sur, 1875 ft to N and 150 ft to W line. Texas Co.'s, Breckenridge, T. Weddington 11, S 4, Bayland Asy sur, 402 ft to N and 706 ft to W line. J. F. Williams', Daniels Hotel, Cisco, R. L. Buchanan 5, S 8, Bayland Asy sur, NW Cor. Borealis Oil Co.'s, Southwestern Life Bldg., Dallas, H. Wagley 5, S 3, D&D Asy sur, SE Cor. Westheimer & Daube's, Ardmore, Okla., J. S. Hart 1, S 59, Bayland Asy sur, 650 ft to E and 460 ft to S line. Sincovich & Thomas', Putnam, G. C. Wood 8, 2299 TE&L sur, 500 ft to N and E lines. J. D. Magee's, Abilene, G. Brandon 1, S 3, Bayland Asy sur, 375 ft to N and 540 ft to W line. Moutray Oil Co.'s, Cisco, W. M. Isenhour 10, S 7, Bayland Asy sur, west of No.

9. R. H. Fechner's, San Antonio, Eubanks 1, 2039 TE&L sur, 150 ft to N and E lines. Evans, Hutton & Kennedy's, Box 177, Cisco, W. H. Abrams 1, S 1, BBB&C Ry sur, 150 ft to N and 160 ft to W line. Goodloe & Harris', Putnam, S. M. Davis 18, S 4, Bayland Asy sur, south of No. 16. Texas Co.'s, Breckenridge, W. M. Isenhour 7, S 7, Bayland Asy sur, 293 ft SW No. 3; 9, same sur, 274 ft SW No. 4; 10, same sur, 300 ft E No. 5; 11, same sur, 300 ft E No. 10.

Caldwell County—Texas Co.'s, Houston, C. H. Beaty 2, J. Burleson sur, 312 ft SW No. 1; 3, same sur, 312 ft SW No. 2. Humble Oil & Ref. Co.'s, Houston, H. F. Brewer 8, P. Martinez sur, 150 ft to S and E lines; 9, same sur, 450 ft to S and E lines; 10, same sur, 450 ft to S and 750 ft to E line; 11, same sur, 450 ft to S and 1050 ft to E line; 12, same sur, 750 ft to E and 150 ft to N line. R. B. Randolph's, 603 West 26th St., Austin, C. Beaty 2, J. Burleson sur, 150 ft to E and 242 ft to S line. Seals Creek Oil Co.'s, Bertram, R. B. Inscore 1, S. Seals sur, 230 ft to W and 327 ft to S line. Gulf Production Co.'s, Houston, M. L. Brewer 14, J. Burleson sur, 150 ft to S and E lines; 9, F. Castillo sur, 150 ft to S and W lines; A. T. Cardwell 1, J. Burleson sur, 150 ft to N and E lines; C. H. Beaty 10, same sur, 150 ft to S and E lines.

Collingsworth County—Continental Oil Co.'s, Ft. Worth, W. E. Hughes 1, S 79, H&GN Ry sur, 2550 ft to W and 1200 ft to S line.

Clay County—Lone Star Gas Co.'s, Petrolia, Holloway 13, B 29, P. C. S. L. sur, 150 ft to W and 618 ft to S line; 14, same sur, 756 ft to W and 850 ft to S line. M. J. Sullivan's, Ridge Arcade Bldg., Kansas City, Mo., J. L. Larg 3, No. 2 GC&SF Ry sur, 350 ft SE No. 1.

Culberson County — Grisham, Grisham & Hunter's & Owens', Van Horn, G. W. Foster 1; S 5, C. C. S. L. sur, 330 ft to E in center of line.

Dallas County—Evans, Hutton & Kennedy's, Cisco, W. H. Abrams 1, S 1, BBB&C Ry sur.

Duval County — Associated Oil Co.'s, First Nat. Bank Bldg., Houston, Sutherland 1, S 185, 2000 ft to W and 750 ft to S line.

Eastland County—Mahan & Harris', Box 338, Cisco, Abrams 1, S 1, SW cor. Mardon Co.'s, Box 2008, Ft. Worth, Texas, R. L. Williams 1, S 4, GC&SF Ry sur, 300 ft to E and 160 ft to S line. Dorothy Oil Co.'s Eastland, W. C. Kincaid 2, S 24, H&TC Ry sur, 500 ft to N and 400 ft to W line. Hutton et al's, Box 133, Cisco, C. G. Daniels 1, S 2, BBB&C Ry sur, 450 ft to N and 150 ft to W line. E. V. Parsons et al's, W. T. Waggoner Bldg., Ft. Worth, T. L. Scott 2, T. A. Harwell sur, center of blk 4; 3, same sur, center of blk 3. States Oil Corp.'s, Eastland, M. Hise 5, S 17, H&TC Ry sur, 322 ft to N and 570 ft to E line. J. V. Johnson's, Eastland, J. S. Watson 1, S 30, H&TC Ry sur, NW cor. Texas Dev. Co. et al's, Box 65, Eastland, J. P. Rushing 2, S 46, H&TC Ry sur, 350 ft to S and W lines.

Fort Bend County—Stratton Ridge Oil Co.'s, Freeport, Tolar & Dannenbaum 17, J. E. Groce sur, 401 S No. 15. Union Sulphur Co.'s, Humble Bldg., Houston, T. W. Davis 25, M. Young sur; 26, same sur; 27, same sur, 28, same sur.

Galveston County—Sun Oil Co.'s, Dallas, J. W. Lockhart 4, M. Dunman sur, 50 ft to N and E lines.

Harris County—Humble Oil & Ref. Co.'s, Houston, Harrel 4, Wm. Scott sur, 490 ft S of Gulf C-B 9; Barrett 39, Jas. Strange sur, 114 ft to W and 15 ft to N line; Gaillard 28, Wm. Scott sur, 557 ft to S and 150 ft to W lines. Woods & Bennett's, Humble, Gulf-Texas 2, Jas. Strange sur. Brooks-Quinn Synd.'s, Box 567, Humble, W. Hunt 1, Wm. Ritchie sur, 150 ft to N and 200 ft to W line.

Hardin County—Paraffine Oil Co.'s, Houston, Knight 41, West central.

Hopkins County—Gulf Production Co.'s, Ft. Worth, S. Pierce 1, J. A. Croft sur, 165 ft to W and 400 ft to S line.

Hutchinson County — American Ref. Co.'s, Wichita Falls, S. B. Burnett 1, S 18, Morris & Cummings sur, 660 ft to N line.

Liberty County—Associated Oil Co.'s, First Nat. Bank Bldg., Houston, A. Deussen 1, D. Minchey sur, 1050 ft to W and 40 ft to S line; 3, same sur, 200 ft W No. 2. Swiss & Ratliff's, Lake Charles, La., J. Mitchell 1, M. G. White sur, 100 ft to S and W lines. Paddock & McRae's, Second Nat. Bank Bldg., Houston, Quintette Oil Co. 2, S 125, H&TC Ry, 60 ft to E in center of line.

Limestone County — Yoder & Walton's, Mexia, J. C. Saunders 1, P. Varela sur, center.

Milam County—Anchor Oil Co.'s, Box 28, Dallas, Mrs. J. D. Hamilton 1, R. Milby sur, 150 ft to N and E lines. Bartlett Production Co.'s, Rockdale, Coulter 3, T. S. Arnett sur, 500 ft NE No. 1. Texas Petroleum Dev. Co.'s, Box 809, Cameron, W. M. Phillips 2, J. W. Chambers sur, 300 ft NE No. 1. Fogle Oil Co.'s, Minerva, Horton 1, T. S. Arnett sur, 150 ft to N and E lines.

Matagorda County — Gulf Production Co.'s, Houston, A. L. Craig 1, T. Williams sur, 2203 ft to W and 100 ft to N line.

Montague County — Texhoma Oil & Ref. Co.'s, Wichita Falls, J. E. Leman 1, S. Little sur, 200 ft to N and E lines.

Navarro County—Roxana Pet. Co.'s, First Nat. Bank Bldg., Houston, J. Bailey 2, J. Rahm sur, 150 ft to N and W lines; W. Smith 6, J. Havens sur, 150 ft to N and 1147 ft to W line. Humble Oil & Ref. Co.'s, Houston, G. C. Kent 14, Hrs. J. Smith sur, 283 ft S No. 11; 15, same sur, 142 ft S No. 13; B. F. Irvine 21, J. Taylor sur, 142 ft S No. 13; 20, same sur, 283 ft S No. 21; R. D. Flemming 4, J. B. Barry sur, 150 ft S No. 1. Prince & Prince's, Electra, Higgins 1, R. D. Newman sur, NW cor.

Orange County — Republic Production Co.'s, Houston, Starks & Brown 1, S 1, I&GN Ry sur, north central. Continental Oil Co.'s, Orange, O. Chesson 15, Wm. Dyson sur, 220 ft S No. 12.

Potter County—Amarillo Oil Co.'s, Amarillo, Lee Bivins 4, S 24, D & P sur, 300 ft to S and E lines.

Palo Pinto County—J. T. Hughes et al's, Box 36, Mineral Wells, R. S. Dalton 1, L. B. Dayton sur, 850 ft to N and 150 ft to W line.

Shackelford County — J. S. Dennis' Moran, A. J. Thomas 6, S 68, Univ. Lands sur, NW cor. L. B. Tannehill's, Albany, R. J. Moberly 13, S 12, T&P Ry sur, 160 ft to W and 1000 ft to S line. Lyon & Howell's, Moran, Diller Bros. 1, S 43, L. A. L. sur, East central.

Stephens County—Sun Oil Co.'s, Dallas, J. B. Hofmeier 1. S 6, T&P Ry sur, 200 ft to E and 850 ft to S line. M. K. Watson's, Ranger, Mrs. W. R. Scott 1, S 2, T&NO Ry sur, 150 ft to N and 65 ft to W line. Parsons, George & Fort Ring Oil & Gas Co.'s, Fort Worth, Scott 1, S 2, T&NO Ry sur, 200 ft to W and 150 ft to S line. R. B. Pender's, Denton, H. B. Furr 1, S 24, T&P Ry sur, 300 ft to S and W lines. Barkley & Crotty's, Box 1388, Wichita Falls, N. P. Hames 1, S. Flores sur, 330 ft to N and W lines.

Scurry County—Northwest Co.'s, Snyder, S. H. Newman 1, S 115, H&TC Ry sur, 330 ft to S and E lines. California Co.'s, Colorado, C. E. Wood 1, J. P. Smith sur, 1650 ft to E and 990 ft to S line.

Throckmorton County—Humble Oil & Ref. Co.'s, Houston, R. L. Harrison B-1, 2354 TE&L sur, 150 ft to S and E lines. Magnolia Petroleum Co.'s, Dallas, N. L. B. Davis 1, 2326 TE&L sur, 300 ft to E and 926 ft to S line.

Wichita County—G. L. Pace's, Staley Bldg., Wichita Falls, T. F. Mitchell 1, B 9, P. Castleman sur, 150 ft to S and E lines; A. B. Edgerly 2, S 31, SA&MG Ry sur, 150 ft to N and W lines. C. Mooers et al's, City Nat. Bank Bldg., Wichita Falls, J. A. Kemps 3, B 16, W. V. F. L. sur, 150 ft N No. 1. White Eagle Oil & Ref. Co.'s Wichita Falls, D. E. Hooks 2, R. J. Scott sur, 150 ft to N and W lines. Mrs. R. A. Laning's, Morgan Bldg., Wichita Falls, H. S. McCarty 7, S. O. Fowler sur, 330 ft E No. 2. Electra-Gulf Oil Corp.'s, Wichita Falls, Fassett & Tuttle 1, S 2, C. T. Ry sur, 150 ft to N and E lines. Williams, Conrey & McConnell's, Wichita Falls, E. M. Horton 1, BBB&C Ry sur, 450 ft to W and 150 ft to S line. Bailey-Damuth Drilling Co.'s, Waggoner Bldg., Wichita Falls, D. G. Jackson 1, W. H. Spillers sur, 150 ft to S and W lines. Shaw & Rathke's, Wichita Falls, T. L. Burnett A-2, S 9, HT&B Ry sur, 300 ft W No. 1. Iowa Park Oil Co.'s, Iowa Park, L. N. Lockridge 21, L. Netherly sur, 300 ft E No. 1. Roberts & Hill's, Wichita Falls, Mrs. S. Mitchell 3, B 16, C. T. Ry sur, 300 ft S No. 1. Culbertson Co.'s, City Nat. Bank Bldg., Wichita Falls, J. & J. Waggoner 30, S 13, BS&F Ry sur, 365 ft W No. 23. Underwood Drilling Co.'s, Morgan Bldg., Wichita Falls, J. R. Pace 4, S 118, J. R. Scott sur, 450 ft to E and 300 ft to N line. W. H. Hammon et al's, Wichita Falls, McCarty 5, W. R. Eaves sur, 450 ft to N and 150 ft to W line. Maer & Staniforth's, City Nat. Bank Bldg., Wichita Falls, S. B. Burnett 1, S 12, H&GN Ry sur, 150 ft to N and E lines; J. A. Kemp 5, B 27, W. V. F. L. sur, 300 ft E No. 2. S H Walton's, 1605 Lucille St, Wichita Falls, Burnett Est. 6, S 2, H&GN Ry sur, 150 ft to S and W lines. Fresno Oil Co.'s, Wichita Falls, A. F. Dodson 1, R. Hornsby sur. Bonchil Co.'s, Staley Bldg., Wichita Falls, H. Beach 22, C T Ry sur No 4, 165 ft W No. 10. Magnolia Pet. Co.'s, Dallas, Burnett 12, S 6, SA&MG Ry sur; Rio Bravo 49, S 31, H&TC Ry sur. Dale Oil Corp.'s, Wichita Falls, G. Jennings 12, S 12, HT&B Ry sur, 300 ft E No. 8. Dale et al's, Electra, T. L. Burnett 6, S 9, HT&B Ry sur, 50 ft E No. 4. Minntex Oil Corp.'s, Wichita Falls, J. E. Roller 7, B 15, J. E. Roller sur, 50 ft W No. 6. Texas Co.'s, Wichita Falls, E. McBurney 17, S 195, Waggoner Col. sur, 50 ft W No. 13. Ascot Co.'s, Box 342, Wichita Falls, J. E. Roller Est. 29, W. A. Grady sur, 150 ft to N and 400 ft to E line. G. R. Ridgeway's, Staley Bldg., Wichita Falls, J. L. Powell 2, S 21, H&GN Ry sur, 300 ft SE No. 1. Texas Fidelity Oil Corp.'s, 231 South Fifth St., Louisville, Ky., R. M. Peeler 9, 127 H. B. Balch sur, 50 ft W No. 5; 10, same sur. 50 ft W No. 7. O'Donohoe-Gates Drilling Co.'s, City Nat. Bank Bldg., Wichita Falls, J. A. Kemp 3, S 11, W. V. F. L. sur, 50 ft W. United Production Co., Inc.'s City Nat. Bank Bldg., Wichita Falls, Fouch-Jennings 5, S 12, HT&B Ry sur, 450 ft to E and 550 ft to S line. Texas Co.'s, Wichita Falls, Kemp & Allen 10, B 26, W. V. F. L. sur, 150 ft to E and 490 ft to S line. Petroleum Prod. Co.'s, City Nat. Bank Bldg., Wichita Falls, Kemp & Allen 5, B 27, W. V. F. L. sur, 150 ft to N and E lines. J. A. Gardner's Box 418, Wichita Falls, T. L. Burnett 1. G. R. Meade sur, 150 ft to N and W lines. Texhoma Oil & Ref. Co. and T. F. Hunter's, Wichita Falls, L. Cooper 1. H. Hastie sur, 800 ft to W and 150 ft to N line. Gulf Production Co.'s, Ft. Worth, G. Jennings 13, S 12, HT&B Ry sur, 300 ft S No. 11. Shappell Oil Co.'s, Wichita Falls, B. N. Ferguson 1, B 50 W. V. F. L. sur, 750 ft to N and 150 ft to W line. Texhoma Oil & Ref. Co.'s, Wichita Falls, Waggoner Bros. 1, B 15, N. George sur, 150 ft to N and W lines.

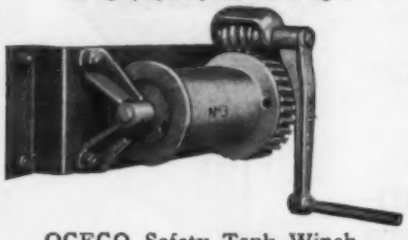
Wilbarger County — Bridwell & Heydrick's, Wichita Falls, S. A. Dill 9, S 84, H&TC Ry sur, 450 ft to S and 240 ft to E line; W. H. Stephens 10, S 83, H&TC Ry sur. 232 ft E No. 2. Humble Oil & Ref. Co.'s, Wichita Falls, W. H. Stephens 21-A, S 83, H&TC Ry sur. Magnolia Petroleum Co.'s, Dallas, Rio Bravo 48, S 31, H&TC Ry sur. Ray & Massie's, Staley Bldg., Wichita Falls, Bond, Hawkins & Williams 2, S 100, H&TC Ry sur, 50 ft W No. 1. Winnipeg Oil Co.'s, Bob Waggoner Bldg., Wichita Falls, Bond, Hawkins & Williams 11, S 100, H&TC Ry sur, south of No. 10. Texas Co.'s, Wichita Falls, W. T. Waggoner 301, S 14, N. Key sur, 3794 ft to N and 250 ft to E line. Miller Oil Co.'s, Electra, W. T. Waggoner 1, S 46, H&TC Ry sur, 150 ft to S and E lines.

Webb County—Crown Central Pet. Corp.'s, Mirando City, E. M. Alworth 8, S 58, Blk 2; 9, same; 10, same; 11, same; 12, same; Wheatly 16, same; 17, same; 18, same; 19, same.

Young County—Simms Oil Co.'s. Magnolia Bldg., Dallas, J. D. Carpenter 9, 237 TE&L sur, 150 ft to N and W lines; W. B. Cheves 2, H. B. Akles sur, 150 ft to S and W lines. Peckham & Fain's, City Nat. Bank Bldg., Wichita Falls, W. B. Cheves 3, H. B. Akles sur, 300 ft N No. 2. Hubbard Drilling Co.'s, Graham, T. Price 1, T. Price sur, 300 ft to W and 400 ft to S line.

OCECO Equipment

OCECO Roof Manhole
Gas-tight, spark-proof water-tight.



OCECO Safety Tank Winch
100% safe, self-locking, tamper-proof.

OCECO Cable Sheave Bracket
Gas-tight, true aligning, easy operating.

OCECO Conservation Vent Unit
Reduces evaporation yet protects roof from excessive pressure of vacuum.

Oceco equipment also includes gauge and thief hole covers, steel nozzles, swing joints, oil still safety valves, automatic tar plugs, fire extinguishers.

Losses May Be Reduced by 70 to 80%!

INVESTIGATIONS conducted by the Bureau of Mines pertaining to the reduction of evaporation losses of petroleum have shown that such losses may be reduced 70 to 80 per cent by the use of vapor-tight tanks equipped with vacuum and pressure relief valves, and vapor-tight thief hatches. Additional studies

By Ludwig Schmidt, Associate Petroleum Engineer, Bureau of Mines, Department of Interior

MAKE ALL OPENINGS VAPOR-TIGHT WITH OCECO EQUIPMENT — gas-tight, spark-proof Roof Manholes and Gauge and Thief Hatches, true aligning Cable Sheave Brackets, Vent Equipment that allows breathing yet prevents waste, and other properly designed tank fittings.

Oceco offers this and MORE. Oceco offers years of specialization in designing and perfecting tank fittings for prevention of evaporation and fire losses. Oceco engineers, both at headquarters and branch offices, are at your service to consult with you on evaporation and fire prevention without obligation on your part. They will be glad to explain how you can so Oceco equip that the savings this equipment effects will soon pay for it. They will give you names of leading oil companies who have proved this to their own satisfaction.

Write or wire this office or the branch nearest you.

The Oil Conservation Engineering Co.

Headquarters for Tank Equipment
ADDISON ROAD AND N. Y. C. TRACKS
CLEVELAND, OHIO

25 Broadway	New York
325 Iowa Building	Tulsa, Okla.
306 O-S Building	Casper, Wyo.
318 East 12th Street	Los Angeles, Calif.
440 Howard Street	San Francisco, Calif.
W. K. Henderson Co.	Shreveport, La.

Beaumont Export and Import Co., Beaumont, Texas and Tampico, Mexico

OIL TANK OCECO EQUIPMENT
SAVES EVAPORATION AND PREVENTS FIRE

YOUNGSTOWN
pipe
We are glad to announce that we have been appointed distributors of tubular products of the YOUNGSTOWN SHEET and TUBE Co., Youngstown, Ohio, and now carry a complete stock of casing, tubing and line pipe at all of our various store points
INTERNATIONAL SUPPLY CO.
TULSA
ISC
OKLA.

NEW EQUIPMENT, CATALOGS, BULLETINS, BOOKS

Conveyor for handling heavy oil without heating

Conveyor Removes Necessity Of Heating Heavy Oil

Handling heavy gravity oils and other liquids, without the necessity of heating same to raise the gravity, has been successfully accomplished by Emelio Cortes of Mexico City, and a Mexican patent has been granted, and also allowed in the United States.

The invention consists of a conveyor, designed to be used to lift or convey heavy gravity oils and other liquids from one level to another without the necessity of heating or using any artificial means to raise the gravity of the fluid.

A gasoline engine or any motive power which might be available operates the machine by driving two parallel endless belts running vertically on two pulleys mounted on ball bearing shafts. At the top of the machine is a special shaped box in which are mounted and properly arranged four leather scrapers which take the oil or other liquids from the belts and bring it through the discharge pipe.

The machine fitted with a six-inch belt and driven by a four horsepower motor is capable of lifting about 12,000 gallons of fluid per hour of any gravity fluid, picking same up from a sump or other storage and conveying it vertically or horizontally as may be desired.

This machine will be of special interest to operators having large sumps of heavy oil or b. s. which requires treating, as with the use of this conveyor system the oil can be raised right out of the sump and put into the dehydrating tanks with one operation, without the use of steam.

The picture shows one of the machines set up on a sump at the Barry plant at Beaumont, Texas, where large quantities of b. s. are now being treated.

The office of the Crude Oil Elevator Company has been established at Houston, Texas, and further information may be obtained by corresponding with the company.

Wire Rope Construction Improved with New Product

A basic improvement in wire rope construction is embodied in the new Tru-lay rope recently developed and now being manufactured by the American Cable Company.

The new principle developed in the making of the rope is the "preforming" of wires and strands to the exact shape they must have to fit correctly in the completed product. The rope is being made in regular lays for oil field use up to one inch in diameter and engineers concerned with its development express satisfaction with its performance under exacting and strenuous tests.

An important characteristic of the Tru-lay rope is that it resists unstranding. It can be cut at any point for splicing and otherwise handled without the necessity of seizing.

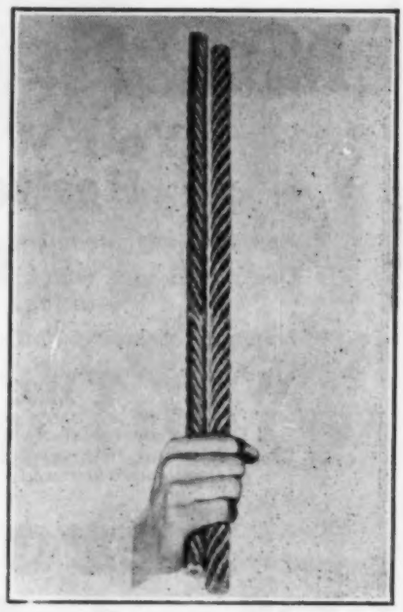
The preforming of the wires and strands in the rope results in evenly balancing the load on individual strands and in a remarkably uniform load distribution to single wires. The rope shows no tendency to high strand in actual use and has stood up satisfactorily in winding tests under heavy loads.

Broked wires in this new rope lie flat. Outer wires on cables, broken by long wear or abrasion, cause considerable trouble, and often necessitate the removal of the rope before it should be discarded. The outer wires of the Tru-lay rope show no tendency to fray out of the rope body. They continue in their places, thus lessening the wear on other wires and on sheaves and drums. The fact that the rope does not unstrand makes splicing a comparatively simple operation.

To make available practically the entire strength of the new rope, the American Cable Company has developed for it a special steel fitting, without zinc, called Tru-loc. The Tru-loc fitting has not only proved dependable under ordinary conditions but also permits the use of turnbuckles, shackles and other equipment used with rods and chains.

A steel sleeve is slipped over the smooth unseized end of the rope, placed in a specially designed press, and made to "flow" down upon the rope until it grips wires and strands. These sleeves may be of any reasonable length—can be threaded, can be equipped with heads of various types for wrenches, or furnished with eyes or hooks. The fitting is lighter, less bulky and has been found to be more dependable than the old-style socket, probably because of the greater equalization of load on wires and strands.

Literature and other information will be mailed to any one interested, by the American Cable Company, 105 Hudson Street, New York City, N. Y.



American Cable Company's New Wire Rope

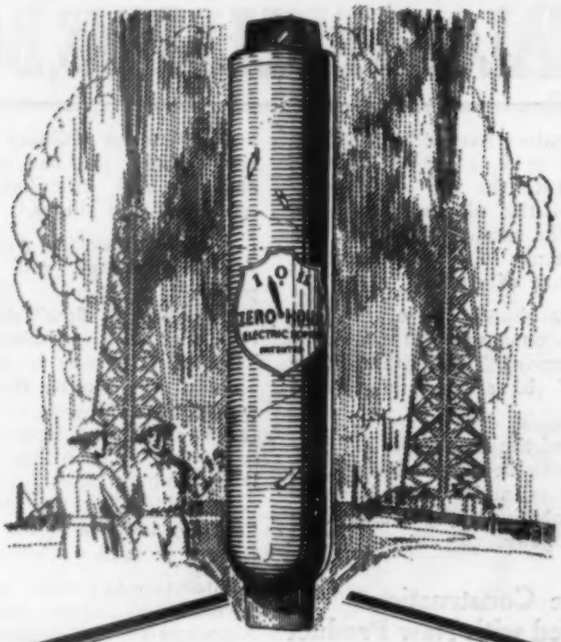
Frameless Stillson Wrench Has Unusual Strength

A frameless all steel Stillson pipe wrench is among the latest equipment offered to the oil trade by Armstrong Brothers Tool Company, 317-357 N. Francisco Ave., Chicago, Ill. Manufacturers of this wrench claim for it a number of advantages:

The weak frame or nut housing has been entirely eliminated.

Side pull strain is taken up by two solid forged steel lugs which are reinforced or tied together by the recessed nut, a construction which combines compact form with the greatest possible strength.

A patented "ball and socket" nut



Mr. Producer!

You Would Not Hesitate To—

Replace antiquated drilling equipment with new tools:

Use any device which would expedite the successful drilling of your well:

Replace worn or doubtful rig parts with new!

Why Then Hesitate

In the important final step—shooting—to use a modern, scientific detonator that eliminates the uncertainty and hazards of the electric shot and various obsolete types of squibs.

Zero Hour Electric Bomb

SAFE AND CERTAIN—THEREFORE ECONOMICAL

No wires to bridge—therefore economical.

No danger of a bursted casing from a premature explosion of squib—therefore economical.

Complete control of time when shot will explode—therefore economical.

Permits the well to clean itself and be placed on production quickly—therefore economical.

Zero Hour Electric Bomb costs less than the wire for electric shots in wells of the average depth

Write For Free Booklet

ZERO HOUR TORPEDO COMPANY

P. & R. Bldg. Casper, Wyo. | 710 Cosden Bldg. Tulsa, Okla. | 219 S. Elm St. Eureka, Kan.

gives increased flexibility and great strength, especially under heavy side strain.

The novel spring action insures proper gripping position to the movable jaw and imparts sufficient tension to prevent the wrench getting out of adjustment.

An exclusive feature of the wrench is that the adjusting nut cannot fall out.

The handle does not act inside a frame and is, therefore, not restricted in size but is so designed as to be strongest at the point of greatest strain.

All parts are self-cleaning in action. This wrench is made to handle pipe from one to five inches in diameter, and is excellent for handling oil field pipe that comes within these sizes.

Additional information will be supplied by the company, upon request.

Armstrong Brothers' Stillson Pipe Wrench

McDonald Offers Addition To Gate Valve Line

McDonald Rising Stem Gate Valves for oil and gasoline, heretofore offered in screw type only, are now being manufactured in flanger type, as well, in the two and one-half and three-inch sizes.

Both types are offered either plain or with patented locking device.

McDonald Valves are well known in the oil industry. Sizes up to two-inch are all brass. The larger ones have iron bodies, but are bronze mounted. Special packing is used which is said to positively prevent leakage around the stems.

The A. Y. McDonald Manufacuring Company, Dubuque, Iowa, will provide further information.

"Through the Fields with WESTERN"

this WESTERN increased production 75.5 BARRELS PER DAY!

and was instrumental in bringing this same production up an additional 350 barrels per day.

This little "Western" 40 HP. Oil Field Pumping Engine is located at Santa Fe Springs, California—close to home. (We are just leaving on our tour.) The well was producing 224.5 barrels of oil per day when the "Western" was installed. Immediately "Western" started it upward, and it soon reached 300 barrels a day. Figure the revenue for one year on 75 barrels of increased production per day. . . . . This is NOT an outstanding "Western" achievement. It is one of the hundreds of ordinary examples of "Western" performance which we come in contact with year in and year out. It, like the others, proves "Western" merit in its own class, and if you are interested in power equipment for oil country work you should know about many other such instances.

Western Machinery Company

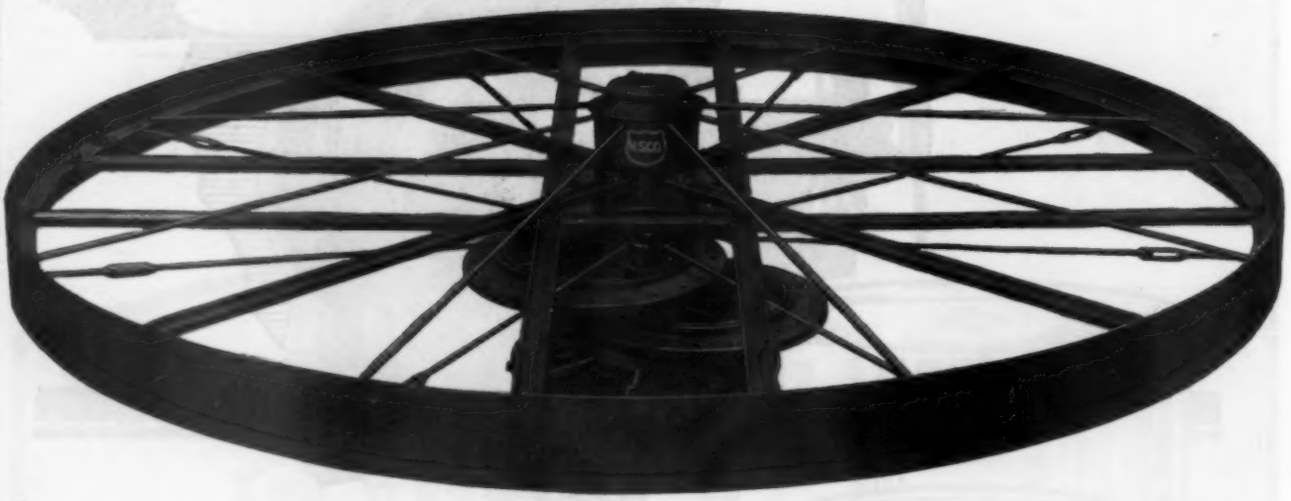
General Offices and Factory: 905 North Main St., Los Angeles, California.

San Francisco Offices and Factory: Eighteenth and Alabama Streets

720 So. Kenosha St. Tulsa, Oklahoma.

1106 Nineteenth St. Bakersfield, California.

NATIONAL
No. 12C Pumping Power



Band Wheels—16, 18 or 24 Foot

ECCENTRIC COMBINATIONS

18 inch Upper, 24 inch Lower
18 inch Upper, 18 inch Lower
24 inch Upper, 24 inch Lower

THE NATIONAL SUPPLY COMPANIES

Say you saw it in The Oil Weekly

LETTERS OF Paul Peebles P.S.G.

Goose Creek, Texas.
June 8th, 1925.

Mr. Paul Peebles,
Care The Oil Weekly,
Houston, Texas.

Dear Sur:

I have receved your letter of the 5th and want to wash my hands of you and everything connected with you.

You have promised and promised to come and see me but you dont cum and only send excuses which are so week and silly that no one with any sence would be fooled by them.

You have been galavantin all over the country with that widder and pertendin you cared only for me when we a'l know that you all are stuck on the widder.

Added to that you ask me fer muney to go to those conventions on when all you go for is to shoot craps and git drunk.

As for you speekin at one of them convensions it is as rediculus as Bryan speeling for a munkey show. What do you know about anything except craps, likker and widders?

Your last letter shows you to be an egotystikle swell hed. If it keeps on swellin you will hav to go down to the race track to git room to skratch it.

Of corse I do not know the widder but you are so narrow minded that both of you ought to get your heds into the hed set without busting it. You talk about gitting a hed set that will fit your kind of ears and if you had any sence you would know that you could git them at a livery stable or a harness shop.

Always advisin me to avoid Slim when Slim attends to his werk and dont pertend to be nuthing that he aint.

You can keep on writin if you want to but your letters will go strate to the wast basket as soon as I have read them.

This is the last that I expect to say about it. Cleopatra.

(Censored by H. H. Jones, Los Angeles, California.)

---

m ideer cleopatry

well hunny I never thunk yu wood ever rite me a letter like that after the way I have treeted yu. yu no yoreself hunny that it aint every girl that has a chanct 2 hav a man like me for a bow-lovver like I am 2 yu. mabe yu think sumtimes that I do kinder neckleck yu on account of what I hav 2 do for sum other peeple & me bein so mutch in love with mi work that I cant git off 2 cum sea yu, but even then hunny I am a more better bow just part time than most fellers yu ever seen is full time, so I am not goin 2 pay no atenshun 2 what yu say & will go rite on like aint nuthin ever happen. yu kinder hert me hunny with sum of the things yu say, but I will fergive yu for it. I am sendin yu a bokay of flowers bi the jitney man & will shore be down 2 sea yu satterday without fale. then we will fix it all up.

hunny yu must not be mad with me & treet me meen because I have a hole lot of disappointments from time 2 time & yu is the mane stand-by what I hav got whitch I can always go 2 for comforts in time of need. yu is so mutch in mi life that I cood not git along without yu atall & if yu aint goin 2 be mi sweety no more it aint no use in me bein alive.

now for a example of how I cant git along without yu it was just this week I had 2 explane 2 the oil scouts whitch was havin there convenshun up 2 ft. werth why I cood not cum up 2 make them a speach, so I sent them a tellygraph that I cood not come on account of I had 2 go 2 sea yu. well hunny that kinder of a excuse will go with ennyboddy in the oil bizness what noes me on account of they no how strong I am for yu if they ever herd me talk enny about wimmin. so they will excuse me & not feel hard at me because I did not come. but if I had a told them that it was on account of the widder wantin me 2 do sumthin for her, well they wood not take that for no reasonable excuse. so hunny, dont yu giv me away. I told them that I had went down 2 sea yu was the reesen I cood not cum up there, so if enny boddy ever asts yu if I did cum down there well yu tell them that I did.

the fact was hunny that I had went to bomont agin like I told yu I mite. I was about 2 back out on goin over there only a laddy frend of the widder's who is also a widder calls me up last week & asts me if I aint lonesome & woodn't I like 2 cum over 2 her house 2 dinner that evenin. hunny I gess yu wood call it supper. well ennyway I went on friday nite & whilst I was there it cum up that she wood like 2 go with me 2 bomont so yu sea where I was at on that deel. it aint no use of burdenin yu with the detales of that trip because I hav bin over there a lots of times befoar & told yu all about it. the only thing is that I hav bin away from home so menny satterday nites that if it was not for me goin on swimmin partys in between times I wood be in the saim class with slim.

but gittin back 2 last fridy nite after I had bin 2 supper with that widder I was tellin yu about, well I remembers that that was the last nite I wood hav out for sum times & that I had not bin out with none of the gang all the week on account of all mi dates had had girls in them. so I rounds me up a buntch whitch I noed wood like 2 look around sum & we went 2 sea a bootlegger & then went out in the cuntry 2 git a chicken dinned at sum kind of a place what they calls a rode house only it aint nuthin but a plase where yu can eat & them what has wimmin with them can danse. mabe yu cood git sumthin elst there 2 mabe but we brung ours along. well everything went along alrite till 1 feller whitch was sittin pretty neer us five fellers whitch I was with tooken a noshun that it ort 2 be a fite or sumthin 2 kinder liven up things & detrack attenshun from the moskitos. well I was rite in for it but 1 of the fellers what was with us sed it was a frend of his what wanted 2 do the fitin, so he gotten me 2 cum on away & not hurt him, so that spoiled the evenin. we all went out lookin for excitement & just as soon as we found some we had 2 leave.

well hunny I am just goin 2 overlook what yu say in yore letter just this one time, but yu better not fool with me no moar like that or yu will be sorry. I hav got a big susprise for yu pretty soon so yu just be pashunt.

yore lovin paul.

Phillips Petroleum Company Moves Office to Fort Worth

Fort Worth, Texas.—The removal of Phillips Petroleum Company's district land and lease office from Dallas to Fort Worth early this week was made to be nearer the center of the company's operations in the state, and also to tap the private telegraph wire connecting Breckenridge production offices with headquarters at Bartlesville, Okla.

The new Fort Worth offices are located on the ninth floor of the W. T. Waggoner Building, with W. H. Ritterbusch, assistant superintendent of the land department, in charge.

Phillips Petroleum Company's field operations and natural gasoline plants in Texas are under the supervision of the Breckenridge offices. R. D. Best is superintendent of natural gasoline plants, and Pete Adsit is production superintendent.

SQUEAKS FROM THE BULL WHEEL

Victoria, Texas. — Two gas blowouts within a week was too much for William J. Fox, derrick man in the Refugio gas field.

A well on the Lambert lease got loose and cut some capers before it was brought under control. Mr. Fox was almost deaf and his nerves were unstrung for several days.

Upon his recovery, a well on the Shelly lease did the same thing. Although he was not on the job when the Shelly blew out, the hair-breadth story of how the derrick man had to slide down the catline a second before the drill stem left the hole and wrecked the derrick, caused him to quit his job.

He says that he is used to being a derrick man on oil wells, not volcanoes, and that he has said goodbye to the Refugio gas field forever.

Mercy, you barely missed running over that man. If he hadn't jumped—"

"Oh, that's all right. It was my husband, and the doctor said he needed exercise."—Boston Transcript.

Tourist (to village constable): "Anything in this town worth stopping to see?"

Constable: "Wa-all, we got the oldest livin' jay walker."—Life.

Ike, Jr.: "Papa, give me a nickel for an ice cream cone, I'm so warm now."

Ike, Sr.: "Come to papa, Ikey, and I tell you some ghost stories which make your blood run cold."

"My friend," asked the missionary, "are you traveling the straight and narrow path?"

In silence the man handed over his card which read, "Signor Ballancio, Tightrope Walker."

Farmer: "I see you've reduced the fine for speeding from $10 to $5."

Country Judge: "Yes, the cusses were beginning to slow up."

"Have you had static on your new radio?"

Mrs. Newlywed: "Well, Harold has had Los Angeles and Cuba, and I'm sure he could get static if he wanted to."

Irate Wife (discovering scofflaw husband on front steps fiddling with door-knob): What are you doing there, Webster?

Husband (continuing to turn knob): Pssh! I'm trying to get Pittsburgh!

Wife's voice (from up-stairs): You are back very quickly, dear.

Husband (who went out ten minutes previously to try a new motorcycle): Er—yes—dear. I got a lift on an ambulance.

"You say you come from Detroit," said the doctor to his fellow passenger; that's where they make automobiles, isn't it?"

"Sure," replied the American with some resentment; we make other things in Detroit, too."

"Yes, I know," retorted the doctor; I've ridden in 'em."

"Something is rotten in the state of Denmark," mused Hamlet.

"Don't you fool yourself," returned the faithful Horatio. "I'll bet the whole trouble is with your receiving set."

"Phyllis dances with abandon."

"She should wear more."

Sonny: "Say, paw, did you ever know that Captain Kidd was an acrobat?"

Paw: "Where in Sam Hill did you get that notion?"

Sonny: "Well, it says here that after Captain Kidd divided the treasure, he went over and sat on his chest."—Oklahoma Whirlwind.

Little girl (rushing into Doctor's office): "Please, doctor, come at once to father. Mother's taken 'is temperature an' it's gone down.

Doctor: "That's all right, my dear, that's splendid."

"'Taint all right; it's gone right down. 'E've swallered it."

"How did Boggs come out with that fortune he inherited a while ago?"

"After he had finished with the probate fees, the inheritance taxes, the lawyers' fees, traveling expenses, real estate transfers, and lost a month's salary looking after it, he bought himself a ham sandwich and called it square."—Grinnell Malteaser.

"John, dear, I am to be in an amateur theatrical. What would folks say if I were to wear tights?"

"They would probably say that I married you for your money."—Dartmouth Jack O' Lantern.

Ambitious College Youth (to Senator): "How did you become such a wonderful orator?"

Senator: "I began by addressing envelopes.—Witt.

"I have heard," said Professor Short, "that Babylon fell, and Ninevah was destroyed, and—"

Someone in the class: "Tyre was punctured."—Notre Dame Juggler.

Old Grad: "What did Bob do after he graduated?"

Older Grad: "Why he's handling quite a bit of real estate."

Old Grad: "Selling it?"

Older Grad: "No, digging it."—Northwestern Purple Parrot.

A pretty co-ed went out to swim,
The day was cold and her clothes were thin
So she carried along a bottle of gin
The funeral's tomorrow at half past tin.

"At just what point do you begin to call a business man an executive?"

"When he takes up golf."

"Pa," said Clarence, "what becomes of a ballplayer when his eyesight begins to fail?"

"They make an umpire out of him," growled his dad.

Manufacturers Have Done Much To Cut Evaporation Loss

(Continued from page 71.)

to the gasket lined lie that a pressure above normal is required from within the tank before it will allow the escape of vapors.

Robinson Packer Company, Tulsa, Oklahoma.—The equipment offered by this concern is designed to save oil and gas before production has reached the storage tank. Underground and casinghead devices are its specialties.

The newest is the Casing Head Latch, which may be attached to any control or casing head. It operates by pushing a lever.

The Three-in-One Packer is a device for conserving gas.

The Limit Plug is designed for shutting off water when a well has been drilled too deep.

Tnemec Paint and Oil Co., Kansas City, Mo.—This company offers the following on tank painting:

"We recommend a priming coat of our No. 6 Brick Red Tnemex paint next to the steel work on all storage tanks. Then a finish coat of light colored Tnemec paint such as our Pearl Gray No. 3 or Silver Gray No. 20 Tnemec, or our No. 36 Aluminun paint and No. 25 White Tnemec. The above four paints have high light reflecting qualities and tend to cut down the evaporation due to rise in temperature underneath the roofs of storage tanks.

"Tnemec is the word cement spelled backward and signifies the nature of this paint. It is made out of portland cement and pure linseed oil, plus necessary color pigment to produce the desired colors."

Westcott & Greis, Tulsa, Okla.—Of the six storage tank specialties distributed by this concern, the Liquid Safety Valve is listed first. This is a liquid valve, whose cylinders working on the pressure and vacuum sides, work in mercury, eliminating corrosion and sticking as well as offering safety on the score of a fire hazard.

On a 55,000 barrel tank, this valve operates on a half ounce pressure. Figures furnished by the manufacturers show that evaporation losses from permitting drafts through the tank on opening the gauge hatch, have been reduced to as low as 1 percent a year on high gravity oil.

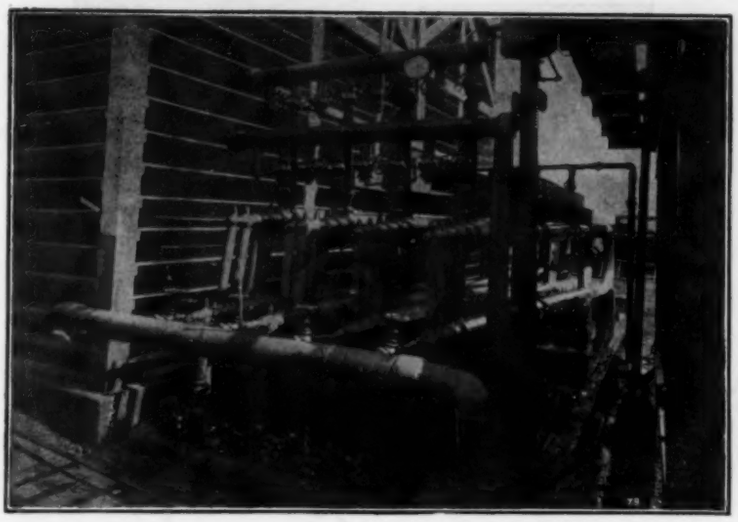
Lower temperature is gained by compelling lighter and heavier fractions to mix under the pressure, instead of allowing the light fractions to collect in the dome, where the gas pocket is sure to carry a high temperature.

The half ounce pressure carried on the body of the oil retards more light fractions from coming from the oil, when the temperature, as the valve opens only at the danger point.

Being held under a slight pressure when the temperature changes, the tank is not compelled to open to the atmosphere at once to get relief.

Another device offered by this con-

ENGINEERS & CONTRACTORS IN NATURAL GAS AND OIL



Again We Emphasize Unit Responsibility

The Hope engineering and construction force is composed of a number of skilled and experienced individuals merged in an operating unit of exceptional efficiency keyed to one policy and one standard.

So does any Hope-built plant or pipe line represent a merging, in one highly efficient unit, of a number of carefully selected elements brought together under a well-defined and time-tested plan developed to achieve given results in the best and most economical way.

And back of the plant as a whole—as well as back of each element in it—stands the unit responsibility of the Hope Company, its record, its reputation.

Hope Service

Engineering counsel, design, construction and contracting—in pipe lines for oil and gas, oil pumping stations, gas compressing and boosting plants, gasoline recovery systems, city and inter-city gas mains.

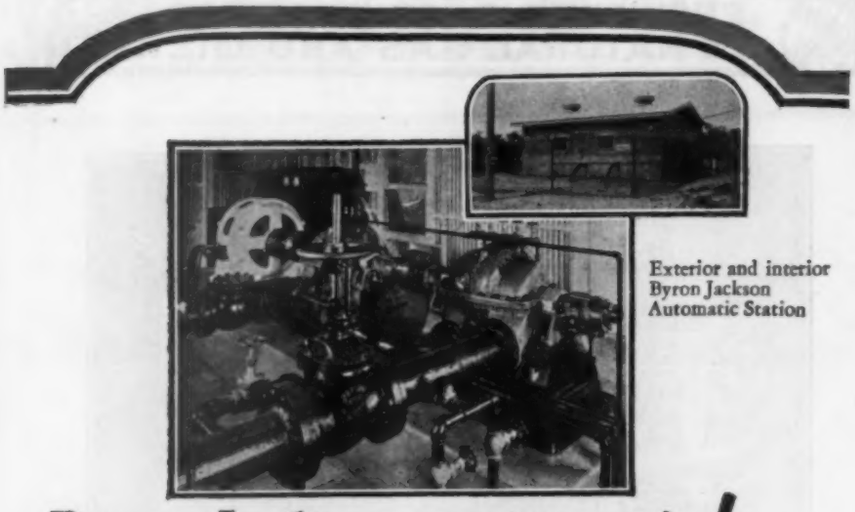
Unit Responsibility

ENGINEERS CONTRACTORS

HOPE Engineering & Supply COMPANY

DESIGNERS MANUFACTURERS

MT. VERNON, OHIO, U. S. A.



Exterior and interior Byron Jackson Automatic Station

Byron Jackson automatic oil line pumps *save!*

The advantages of Byron Jackson special centrifugal electric multiplex oil line pumps are many:

Automatic in operation, minimizing attendance expense.
No tanks, no loss from evaporation.
Steady flow, free from destructive pulsation.
Cost less than reciprocating pumps; less for buildings and less for maintenance.

Byron Jackson special centrifugal electric multiplex oil line pumps are proven equipment used by some of the most progressive companies.

BYRON JACKSON PUMP MFG. CO. INC.

Factory and Main Office, Berkeley, California

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Gulf Coast Fields—Sucker Rod Rotors, Sargent Rod Grips, Oversize Traveling and Standing Valves, Plumb Bob Ball Type.

cern is the improved Gauge Hatch, one provided by the rim of the top cover, which fits into a liquid recess at the base. Another seat is formed by a special gasket, the outer wall of which makes it spark proof. When operated by the foot, it closes automatically.

A new type of Manhole Cover has a 20-inch open and is self closing. It can be locked and will close to vapor proof tightness.

Working parts of the newly perfected Cable Winch are housed to prevent fouling of the cable and to insure smooth operation. The winch can be locked with cable played out at any length. The handle can be removed.

A Cable Sheave Bracket is made to fit any pitch of roof.

The Mechanical Gauge Hatch is self-closing and gas tight. It has a cast iron seat against babbitt.

Paint for Lease Tanks Is Good Investment

(Continued from page 63.)

standard with manufacturers, just as designs are. So far as the writer knows, no concern is furnishing lease tankage with aluminum paint. Some, however, furnish gray paint, which is next to aluminum for reducing temperature in a tank.

It may be that lease tanks can be coated with aluminum after they are set up. This depends on the paint furnished and the application of the aluminum coat. No producer should attempt to cover a new tank, already painted, with an additional aluminum coat until he has consulted both the tank manufacturer and the maker of the aluminum paint.

Repainting a tank is but little different from painting one that comes unpainted. In repainting a tank, care should be exercised to remove previous coats of paint. Steel scrapers are often necessary to accomplish this. Steel brushes should be used after the scraping. With the old paint removed, the painting is identical with that of coating a new tank.

A word of warning may not be out of place concerning paint for oil tanks. The ordinary paints are of little value in painting oil tanks or equipment. Around refineries acids and alkalis make the ordinary paints of no use. Even in storing crude oil, paints manufactured for the purpose are the only ones worth consideration.

And ready mixed paints are the safest for the man not familiar with paint ingredients. The oil concern maintaining laboratories may be able to determine what constitutes the proper paint and then to prepare it. But the man having no such facilities is playing the safe rule to depend on the paint concerns, whose chemists have studied oil painting from every angle and have prepared paints for the particular uses it has in the oil industry.

Standardizing Accident Statistics in Field

(Continued from page 45.)

time accidents per 100 men", a lost time accident being defined as one that entails loss of time beyond the day of injury. We find that this basis of computation is more easily understood by the men than if the accidents are computed per million hours exposure. It is hard for anyone to comprehend the extent of one million hours, where it is easy to think in terms of men employed.

Our severity rate for the field is based on actual days lost on account of accident, and is expressed as "days lost per man".

Again, we have thought the standard we have adopted for comparative purposes to be too complicated for thorough understanding by the field. We have not weighted these days lost by arbitrary equivalents for permanent disabilities and deaths for the sake of simplcity in presenting them to our field executives.

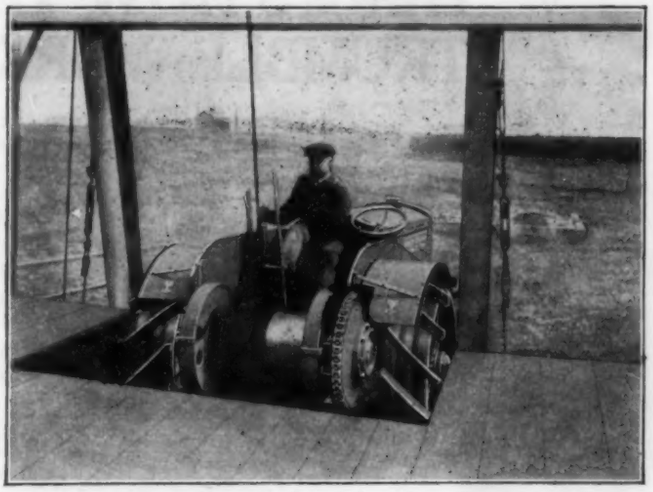
However, we do include in our field reports a figure that takes the severity of accidents into consideration. This is the compensation cost per man, which includes compensation, both voluntary on the part of the company, and legal, for time lost and permanent disability and death payments. Medical cost is not included in this figure, but is shown by our medical department in a separate report.

b. For the purpose of record and comparison with other organizations, we define our frequency rate as the "number of lost time accidents occurring per million hours worked", and our severity rate as the "number of days lost per one thousand hours worked". The number of days lost is computed as the actual number of calendar days elapsed between the day of the injury and the day the employe returns to work (but not including the day on which the injury occurred).

To determine the time loss equivalents for permanent disability or death, we use the following table, as recommended by the International Association of Industrial Accident Boards and Commissions, and adopted by the National Safety Council:

Nature of Injury	Degree of Disability in Per Cent. of Permanent Total Disability	Days Lost
Death	100	6,000
Permanent Total Disability	100	6,000
Arm above Elbow—Dismemberment	75	4,500
Arm at or below elbow—Dismemberment	60	3,600
Hand—Dismemberment	50	3,000
Thumb—Dismemberment	10	600
Any one finger—Dismemberment	5	300
Two fingers—Dismemberment	12½	750
Three fingers—Dismemberment	20	1,200
Four fingers—Dismemberment	30	1,800
Thumb and one finger—Dismemberment	20	1,200

Unobstructed View of the Work



Rock Island Model 70 Tractor Winch

You can back right up to the well, facing it with unobstructed view of the work—and pull tubing directly on the drum—no bull wheel necessary—a big saving in dollars and cents, when you use a Rock Island Model 70 Tractor Winch.

This winch will pull 10,000 pounds on a single line. It will handle the rods in any oil well, pull them slowly, stop at any point desired and then go on. Speed can be increased as load decreases.

Drum and working lines inside derrick—operator and control mechanism outside. Powerful brakes—complete safety for operator.

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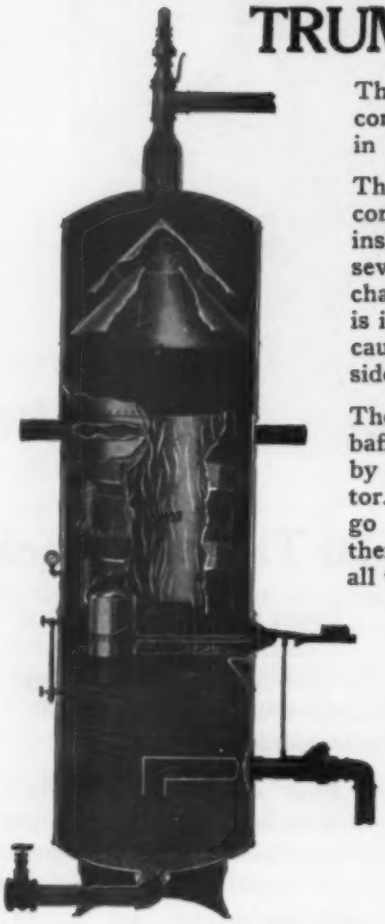

The gas and oil piped from the well comes into the Trumble separator in a tangent.

The centrifugal baffle takes the incoming oil and gas around the entire inside surface of the separator several times and gives the gas a chance to separate from the oil. It is impossible for the oil to drop and cause foaming as it clings to the sidewalls.

The gas goes back up through the baffle and is kept from channeling by a baffle in the top of the separator. It is impossible for any gas to go out through the oil outlet as there is a seal over the oil outlet at all times.

The centrifugal method of separation is the best method ever used, the same as that used in separating gasoline and water. The floats are non-collapsible as the internal and external pressures are equalized, therefore, the SLIDE and SAFE valves have to work, as they operate automatically with the float.

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Thumb and two fingers—Dismemberment	25	1,500
Thumb and three fingers—Dismemberment	33⅓	2,000
Thumb and four fingers—Dismemberment	40	2,400
Leg above knee—Dismemberment	75	4,500
Leg at or below knee—Dismemberment	50	3,000
Foot—Dismemberment	40	2,400
Great toe, or any two or more toes—Dismemberment	5	300
One toe, other than great toe—Dismemberment	0	...
One eye—Loss of sight	30	1,800
Both eyes—Loss of sight	100	6,000
One ear—Loss of hearing	10	600
Both ears—Loss of hearing	50	3,000

Injuries not involving amputation should be rated as a proportion of the weight assigned to the entire loss of the member involved, in accordance with the degree of impairment. When the function of any member has been impaired, but the member has not been amputated, in whole or in part, or has not been totally destroyed, and an award has been made by the State Industrial Accident Commission, the number of days to be used in compiling the Severity Rate will be based upon the award made by the Commission.

Accident Frequency and Severity Rates, when computed on the above basis, are comparable. We get our hours worked and our actual days lost from our pay rolls.

(3) Classification of Accidents by Occupations

This analysis has only recently been established by our office, although it has been used in one of our departments for a number of years. We believe it will be of value in showing us the class of men exposed to the greatest hazard, and upon whom we must concentrate greater effort in our educational work.

In our Producing Department we have divided our classification of employees as follows:

1. Drilling—including: Drillers, Derrick men, rotary helpers, tool dressers, well cleaners.

2. Producing—including: Pumpers, gaugers, dehydrator men, well-pulling gang, gang pushers.

3. Transportation—including: Truck drivers and swampers, teamsters and swampers, barn and garage men.

4. Shop—including: Machinists and helpers, boilermakers and helpers, blacksmiths and helpers, gas engine men, molders, welders, painters.

5. Miscellaneous—including: Roustabouts and laborers, firemen, tool pushers, bricklayers, carpenters, rig builders, compression and absorption plant men, clerks, superintendents.

In our Sales Department, employees are classified as follows:

1. Service Station Division—including: Air and water boys, service station salesmen.

2. Salesmen—including: Tank truck salesmen, general salesmen, package truck salesmen, sub-station salesmen, agents.

3. Mechanical—including: Blacksmiths

and helpers, boilermakers and helpers, carpenters, engineers, firemen, garage repairmen, mechanics, pipefitters, plumbers, painters, pumpers, regional mechanics, repairmen (general), upholsterers, welders, garage men.

4. Labor—including: Laborers, yardmen, warehousemen and storekeepers.

5. Miscellaneous—including: Clerks, sales managers, office boys, stenographers, warehouse clerks, watchmen.

Marine Department employees are classified as follows:

1. Seamen—including: Ordinary seamen, able seamen, boatswains, deckhands.

2. Officers—including: Captains, first officers, second officers, third officers, chief engineers.

3. Mechanical—including: Assistant engineers, machinists, wipers, pumpmen, firemen, welders, oilers, carpenters.

4. Stewards—including: Stewards, cooks.

5. Miscellaneous—including: Clerks, radio operators.

Manufacturing Department employees are classified as follows:

1. Refinery—including: Operators, oil treaters, still men, gaugers, pumpmen, chargers, line inspectors, water tenders, filter plant operators.

2. Mechanical—including: Carpenters, boilermakers, firemen, machinists, mechanics, painters, pipefitters, welders, blacksmiths, electricians, boiler washers, masons, riggers, truck drivers and helpers.

3. Accessory Factories—including: Ship factory men, can factory men, barrel fillers, punch press operators, car loaders and lumber men.

4. Labor—including: Laborers, barrel washers, warehousemen, car cleaners, wharf men and stevedores.

5. Miscellaneous—including: Foremen, engineers, chemists, clerks and stenographers.

Pipe Line Department employees are classified as follows:

1. Mechanical—including: Carpenters, blacksmiths, boilermakers, engineers, helpers (mechanical), linemen, machinists, mechanics, painters, pipefitters, oilers, plumbers, electricians.

2. Tankage—including: Riverters, tank men and tankage labor.

3. Miscellaneous—including: Chauffeurs, cooks, field engineers, fire inspectors, foremen, gardeners, laborers, line workers, roustabouts, truck drivers.

(4) Classification of Accidents by Length of Service of Injured

This analysis has also only recently been started, but has shown us that last year in one department employees of less than one year's service have an accident frequency rate that is 134 per cent. higher than the rate of those of more than one year's employment. This demonstrates that the new man is a problem to be reckoned with, if we are to reduce our accident rate.

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If your local dealer handles PELCO Bits he will sell you one on approval. Treat it to all the rough stuff in your bag of tricks, and if you are not convinced that you've found the world's best, take it back and get your money.

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Independent Supply Stores in any Rotary field can build profitable repeat business on PELCO Bits. Write for proposition.

If there is no dealer in your field, ship us the shank of an old bit for a templet, and we'll ship you one PELCO Bit or a hundred on the same ironclad guarantee.

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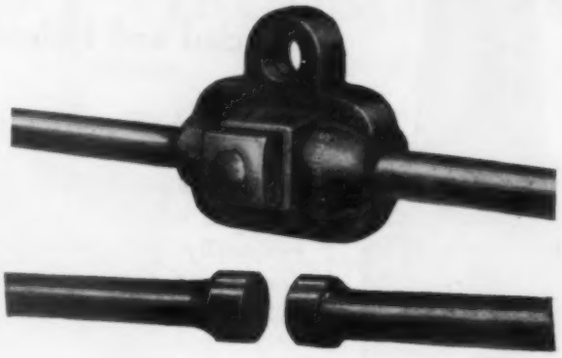

Wherever they are used—in the hills as well as in flat country—COLUMBUS Pull Rods are giving universal satisfaction. Made in standard 25-foot lengths of high grade steel with drop forged steel clamps.

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The Goulds Manufacturing Company
SENECA FALLS, N. Y.

GOULDS

Gas Field in Buffalo Basin, Wyoming
(Continued from page 58.)

or fold near the west line of section 17 that forms a small dome, such as is indicated on the maps made by other geologists, but this supposition can be verified only by further drilling. Within the main area of exposed Cretaceous rocks the eastward slope of the plunging anticline is fairly uniform, as is indicated by exposures and by the wells drilled to the Frontier formation. In section 8 the top of the Frontier, if it was not eroded, would be about 700 feet above the present surface; at the wells in section 17 and section 16, it is respectively 600 feet and 2175 feet below the surface.

Residue Clogs Sandstone

The sands locally called Wall Creek, in section 18, T. 27 N., R. 95 W., and section 13 T. 27 N., R. 96 W., and the leaf-bearing sandstone in section 19, T. 27 N., R. 95 W., are impregnated with a hydrocarbon resembling grahamite, which has apparently so clogged the pores of the sandstone as to prevent the escape of the gas of the field. Samples of the sands were examined in some detail by E. T. Erickson, petroleum chemist of the Geological Survey. The material is odorless, and when treated with boiling benzine the organic matter it includes is wholly dissolved. When the solvent is evaporated a black substance remains that has the chemical composition of grahamite, an asphalt-like hydrocarbon. A small quantity of black odorless oil can be obtained from grahamite by distillation, but the greater part is left behind in the form of coke. It differs from ordinary asphalt in the absence of a strong disagreable odor, a peculiarity that may be due either to the low percentage of sulphur in the oil or to the nature of the alteration process.

This monocline thus sealed by petroleum residue differs from the monoclines so sealed in the Sunset-Midway field in California, which have been described by R. W. Pack in Professional Paper 116 of the Geological Survey, in the nature of the saturating hydrocarbon, which in the occurrence in California is described as tar. However, in its other essential features the monocline resembles those in California. Should the Buffalo Basin gas field be found extensive enough to be commercially valuable this saturation should be thoroughly investigated.

State of Development

The first well drilled, which is near the center of section 16, is 2947 feet deep and reached the top of the Frontier formation at 2290 feet Showings but not commercial quantities of oil and gas were found in the Niobrara and Frontier formations.

The best well yet drilled is near the

center of section 17. This well found showings of gas in the Niobrara. It reached the Frontier formation at a depth of 603 feet, and the log reports five gas sands in that formation, yielding respectively from 3,000,000 to 35,000,000 cubic feet a day. The total depth of this well is 1075 feet. It furnishes the gas used in drilling three more wells, and it supplies the drilling camp with heat and light.

The well near the east line of section 18 was started about 100 feet stratigraphically above the well in section 17 and reached the Frontier formation at a depth of 854 feet, where a 26-foot gas sand was found. When the field was visited it had reached a depth of 1340 feet. The well in the northeast quarter of section 19 is shut down temporarily at 410 feet.

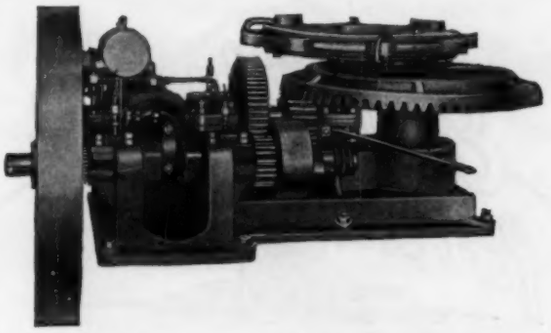
The well in the southwest quarter of section 18 starts below the top of the Frontier formation and found only traces of oil and gas.

The Van well, near the northeast corner of section 7, was begun in the leaf-bearing sandstone. At depths between 205 and 305 feet the drillers reported a 100-foot sand, which yielded 15 million cubic feet of gas a day for a few days, but when the well was visited by the government geologists little gas was escaping. The gas sand is underlain by at least 365 feet of shale and is regarded by the drillers as one of the "Wall Creek sands," but it may be a sand at the base of the Tertiary. Before the stratigraphic position of this sand can be defined the well must be drilled until it reaches either the Frontier or the Mowry formation.

Future Prospecting

The presence of considerable quantities of gas trapped in a sealed monocline in the Frontier formation in Wyoming presents a novel and interesting situation, though the extent of the field can be determined only by further drilling. Wells should be placed about half a mile apart in the areas in which the Frontier formation is within 1500 feet of the surface. The well in section 7 should be drilled through the Frontier formation. A well should be drilled south of the northeast corner of section 13, T. 27 N., R 96 W., to determine whether the western outcrop of the Frontier formation in that section may not be holding back commercial quantities of gas. The traces of oil and gas found below the Frontier formation show that these rocks also deserve a test.

Should developments in Buffalo Basin, now in progress, show a sufficient quantity of natural gas, it can be piped to the Lost Soldier oil field, a distance of about 35 miles, from which it can be sent through existing pipe lines to Casper, Wyo.



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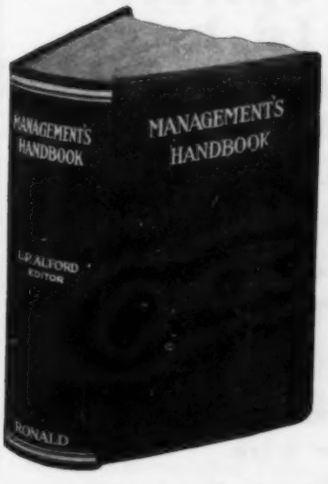
By L. B. Alford, Editor.



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R E S U L T S

Why Is January The First?

By Arthur Knapp

FOR some unknown reason the oil business, not only closes its books on December 31st, but also closes its statistics at the same time. Then, when it is necessary to make comparisons of January business or when the January statistics have been received from the government bureaus, computations as to the increase in business are made by comparison with the previous January. The same thing happens when the first quarter is past. It is compared with the first quarter of last year.

In the first place more accurate comparisons and estimates could be made if the average conditions over the past six or seven years were considered in place of simply comparing one year with the next. This is because there is a wide fluctuation in nearly all petroleum figures from month to month and from year to year, due to weather, seasons, markets and other conditions.

In the second place, when we start over again on January first and compare the first three months of the year with the same period of other years, we are comparing that portion of the year in which there is the widest seasonal weather and market fluctuations. It is therefore obvious that more accurte estimates could be made of the rate of change in January, February and March if these months are compared in conjunction with other parts of the year where there is less wide fluctuation.

The comparison of the figures for the first month or quarter with the same months or quarter in the previous year has very little meaning, as is shown by the consumption of gasoline for the first quarter of each year.

Year	Per Cent of the Year's Consumption Which Is Consumed in the First Quarter	
1918.....	16.24%	(Gasoline)
1919.....	16.05	
1920.....	17.40	
1921.....	19.11	
1922.....	16.98	
1923.....	19.24	
1924.....	17.55	
Average....	17.35%	

It so happens that the consumption for the first quarter of 1924 was very near the average so that in comparing the first quarter of 1925 with 1924 the comparison is made with what is very near the average. At the same time the consumption in the first quarter of

1925 may not be close to the average. Of course we have no means of knowing whether 1925 is an average year or not, but the assumption may be made that it is no further away from the average than any of the previous years. The consumption of the first quarter of 1925 might be 19.24 per cent of the total consumption for 1925 or it might be 16.05 per cent of the total.

The consumption of gasoline for the year 1925 as reported by the Bureau of Mines is:

	Gallons
January, 1925	596,405,509
February, 1925	542,426,997
March, 1925	620,635,551
Totals	1,759,568,037

Based on the above figures, the probable gasoline consumption for 1925 will be between 9,150,000,000 gallons and 10,950,000,000 gallons. In comparison with 1924 with a consumption of 7,780,000,000 gallons, the rate of increase for 1925 for the first quarter is between 17 and 41 per cent. This illustrates the fact that there is such a wide fluctuation in the first quarter of the year that comparisons of this period have very little meaning.

Now let it be assumed that January, February and March are the third quarter of a year commencing July 1st. The consumption of gasoline for the first three quarters of such a year is as follows:

July 1, 1919 to July 1, 1920.....	71.8%
July 1, 1920, to July 1, 1921.....	71.6
July 1, 1921, to July 1, 1922.....	73.4
July 1, 1922, to July 1, 1923.....	70.7
July 1, 1923, to July 1, 1924.....	71.7
Average	71.8%

The consumption of gasoline from July 1, 1924, to April 1, 1925, might be 73.4 or 70.7 per cent of the year from July 1, 1924, under the same reasoning as used above. This gives an increase in consumption since July 1, 1924, at the rate of between 20 and 24 per cent. Using these figures, the estimate for the consumption of gasoline for April, May and June, 1925, would be:

	Gallons		Gallons
April, 1925 ...	693,000,000	to	718,000,000
May, 1925	840,000,000	to	870,000,000
June, 1925 ...	880,000,000	to	912,000,000

This shows the narrow range within which estimates may be made if we do not start over again on the First of January, but use part of the previous year in estimating the future.

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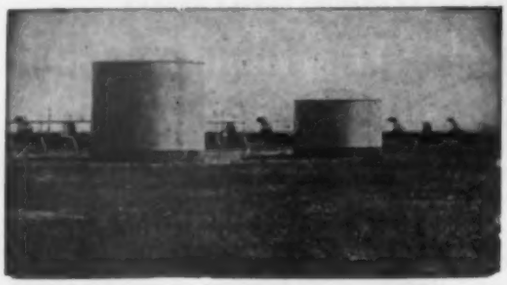

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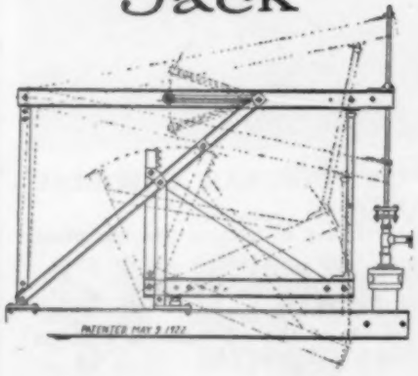
The Jensen Straight Lift Jack



A Straight Up-and-Down Pumping Stroke

The Jensen Jack

gives this and at the same time lessens wear on the polish rod and stuffing box.

Increased production naturally results while operating costs are reduced.

Jack sold complete or only the frame, which can be installed on any well giving a straight-lift jack.

The Straight Lift makes a four-foot stroke practical. Made in No. 2 and No. 3 sizes.

Jensen Bros. Mfg. Co.

Nowata, Oklahoma

Mexican Eagle Starts With Big Campaign

Puerto Mexico, Ver.—In an effort to obtain sufficient production to maintain its Minatitlan refinery and obviate the necessity of bringing in oil for refining purposes either from Tampico or California, the Cia. Mexicana de Petroleo "El Aguila", S. A. (Mexican Eagle) has become active on a $4,500,000 program which covers not only drilling in new territory, but an attempt to rehabilitate fields which at one time produced, but which were shut down during revolutionary activities in 1917, and which have never been again opened for production. A large share of the funds available will be spent in drilling at Filasola and Concepcion with a portion to be utilized for development purposes at El Gavilan.

The Mexican Eagle is getting about 400 barrels of 28 gravity production daily from five wells at Filasola, 82 kilometers up the river from Puerto Mexico, although No. 15, from which but 100 barrels daily is being withdrawn is estimated as being good for 500 barrels. A total of ten wells have been drilled at Filasola to an average depth of 3000 feet. Four wells are now drilling with two additional being rigged up and material being moved in on two other locations. In addition to these, the company has eight more locations ready. The Filasola drilling operations are, from a viewpoint of well accessibility and general efficiency, the best in the republic. In view of the fact that for eight months a year the greater part of this country is under water, Charles E. McKnight, the American drilling superintendent in charge of operations at Filasola and Concepcion, has connected each location by a narrow gauge railroad with camp headquarters and material warehouse so there need not be any cessation of operations during high water. The entire drilling force is composed of Americans to the number of 60, and in addition Mr. McKnight has two Englishmen and 200 Americans working from his camp.

At Concepcion, a short distance from Filasola, where the Mexican Eagle has drilled 17 wells, all dry holes, the company is keeping one rig in operation.

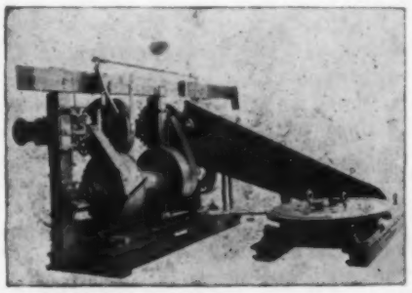
It is understood that at El Gavilan, 15 kilometers southeast of Puerto Mexico, ten prospecting wells will be drilled to prove out live oil seeps and to test salt domes. The closest prior operation to El Gavilan was by the Mexican Eagle at Ixhuatlan, where 28 wells were drilled, of which nine were dry, one salt water and 13 were producers of from 20 to 50 barrels each. The majority of these wells were shallow with production from 311 to 1627 feet, although one well was drilled to a depth of 2497 feet.

The exploitation of this property was stopped in 1917 because of revo-

lutionary conditions and the casing has become badly deteriorated. Approximately 500,000 barrels of from 10 to 35 gravity oil was obtained from these wells. The first well in this property was completed February 5, 1911.

At San Cristobal, near Minatitlan, and in the same general territory as El Gavilan and Ixhuatlan, the Aguila have been endeavoring since 1921 to recondition old wells which were shut in in 1917, because of the revolution. Of the wells drilled in this property 16 were dry holes, nine salt water, 20 abandoned for various reasons and 29 were producers with an initial estimated production of from 10 to 1500 barrels. Oil was obtained in this property from 120 to 500 feet with not more than two wells going deeper than 1500 feet. About 1,250,000 barrels of oil was obtained from San Cristobal with the production of 1915, 1916 and 1917 approximating 100,000 barrels a year. But little success has been had by the Mexican Eagle in its work of bringing back wells as producers.

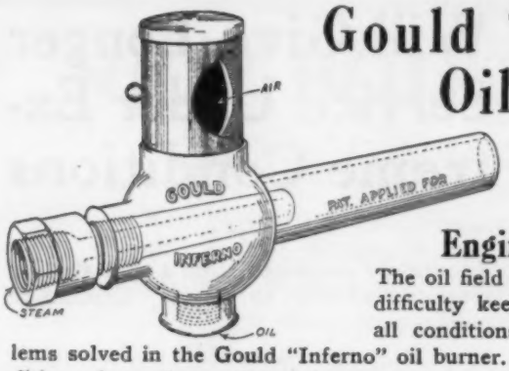
The Minatitlan refinery of the company is handling 100,000 barrels of crude oil a month and in addition to the refined kerosene and gasoline it is distributing fuel oil from this point to various industrial plants and sugar plantations throughout the entire isthmus country and down into Tabasco, Chiapas, Campeche and Yucatan.



New type three-speed draw works recently put on the market by the Beaumont Iron Works. The outfit is completely guarded with steel guards to protect the workmen from injury. These guards are mounted on the post which makes them easy to take down and to erect. The guard over the rotary chain is such that it completely covers the chain and is made adjustable so it will move to accommodate the different widths of the derrick, and is hinged near the top, which permits of a guard being lifted easily with the cat-head line in order to reach the rotary chain.

Wichita, Kansas — Bridgeport Machine Company, manufacturers of oil well drilling and fishing tools, announces the opening of a new store at Braman, Oklahoma. The store is now open for business and is managed by N. W. Babb, formerly of Depew, Oklahoma.

In addition to the regular Bridgeport line of supplies, the Braman store is stocked with contractors' supplies.



Gould "Inferno" Oil Burners

Solve the Engineer's Problems

The oil field engineer who has had difficulty keeping up steam under all conditions will find his problems solved in the Gould "Inferno" oil burner. It meets every condition of weather and fuel because of the principle of primary air mixed with the fuel in the inner chamber of the burner. Thoroughly atomizes the fuel before it leaves the burner, prevents clogging and eliminates soot. Ask your supply dealer.

Write or Wire for Bulletin No. 2

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Indispensable for setting long strings of casing. It minimizes danger of parting before the pipe reaches bottom and takes the strain off of the rig and all equipment used in lowering the string, eliminating serious accidents and possible loss of the well. It is a big help in cementing-off. Where the plug method is used, it eliminates the use of a first plug, the cement being pumped in on top of the mud, the top plug inserted, and all pumped down to the casing float. The Baker is the original Float Collar, a superior product from a practical standpoint, and a very essential appliance in rotary drilling. Write for complete descriptive folder.

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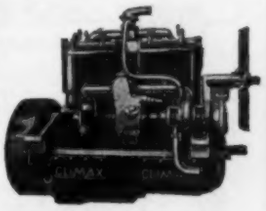

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Standard Transit Company Will Handle Tank Cars

Sharon, Pa.—Reorganization of the Standard Tank Car Company, of this city has just been completed and all business formerly transacted by the old company will now be handled by the Standard Transit Company. The entire stock issue of the latter company is owned by the Standard Tank Car Company.

It is the desire of the new management to render as efficient service as possible to the trade and to this end an office is being opened in the Atlas Building, Tulsa, Oklahoma, replacing the old office at St. Louis.

Frank S. Thompson will be in charge of the Tulsa branch. He will be assisted by James S. MacIntyre. Both these men have been in the service of the company for some time.

Victor Labadie will continue to represent the company on the Pacific coast, with headquarters at No. 1 Drum Street, San Francisco, California.

H. E. Coyl will continue as manager of the tank line, with headquarters at Sharon.

Directors of the Standard Transit Company are as follows: Walter P. Chrysler, William F. Cutler, Duncan A. Holmes, Grayson M. P. Murphy, J. B. Orr, Samuel F. Pryor, Ernest Stauffen, Jr. Officers include J. B. Orr, president; J. G. Pennypacker, vice president; E. A. MacDonald, secretary and treasurer, and G. H. H. Noble, assistant secretary and assistant treasurer.

Wiggins Floating Roof To Be Used in Australia

Chicago, Ill.—Chicago Bridge and Iron Works, manufacturers of the Wiggins Floating Roof, announces the sale of 45 tanks to the Vacuum Oil Company. Of this number, 28 are to be equipped with the Wiggins Floating Roof. These tanks are to be used in bulk storage stations in Australia and New Zealand for the storage of gasoline and naphtha.

The Vacuum Oil Company also purchased five 30-foot Wiggins Roofs to be used on tanks now in service at their Paulsboro, New Jersey refinery.

The Wiggins floating roof is a flat steel float slightly less than the diameter of the tank, and with a rim about two feet high around the edge. This floats on the surface of the oil and thereby prevents vapor from passing off. A sealing device between the rim of this float and the side of the tank provides for smooth operation and prevents evaporation between float and tank shell.

Regan Equipment Catalog

After several months of preparation a new catalog has just been received from the printers by Regan Forge & Engineering Company. This is the first complete catalog ever issued by the California manufacturers and replaces the various individual supplements the firm has prepared from time to time. The catalog is very beautifully laid out and housed in a three-color cover.

Many new productions are shown in the new catalog accompanied by complete descriptions and prices.

Among the many items listed and described are included tool joints, drill collars, fish-tail bits, saw tooth shoes, over-shots, packers, bowls, bushings, expansion taps, collapsible dies, die nipples, die collars, traveling blocks, casing and tubing hooks, cement control and tubing heads, flanges, spools, blow-out preventers, coupling removers, pump adjusters, oil and gas burners, adapters, clamps, wrenches, Christmas tree fittings, drilling bits, temper screws, under-reamers, sinker bars, drilling stems, fishing jars, drive heads, rope sockets, hollow reamers, taper joints, substitutes, latch jacks, rope grabs, spears, swedges and slip sockets. In the rear of the catalog have been inserted special supplements describing the Regan control head, tool joints and traveling blocks.

A limited edition of this catalog has been printed and it is the wish of the manufacturer to place a copy in the hands of every oil producer. A copy can be obtained by addressing the manufacturers, The Regan Forge & Engineering Company, San Pedro, Cal.

Gaso Pumps Find Popular Market in Russia

Tulsa, Oklahoma.—A shipment of four Gaso Pump units have recently been made to Baku, Russia, by the Gaso Pump and Burner Company, of this city. The order duplicates one received from the same operator a year or so ago.

Gaso pumps go out to all countries of the world from the Tulsa plant. Shipments have been made to India, Egypt, British West Indies, South American points, Roumania and Spain.

The Gaso Company announces that it is now offering several pumps direct connected to electric motors mounted on the pump frames. The large Gaso 6, 8 and 10 by 18 suction pump is being offered with direct motor drive. The company is now building three of these units for the Humble Pipe Line Company. A number of smaller sizes including their No 501 discharge pump for field use, are also offered with motor drive.

NEW BOILERS FOR SALE

Four 35 H. P. New Brownell Boilers with stacks @ $600.00 each, f. o. b. Cars Wichita Falls, Texas

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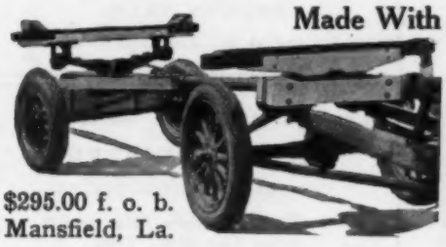
Made With or Without Springs



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The Nabors Spring Trailer, for hauling perishable merchandise, is made with all parts interchangeable with those of the non-spring Trailer.

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C. L. Reeder, manager of the oil equipment department of the A. Y. McDonald Manufacturing Company, Dubuque, Iowa, returned recently from a visit to his company's branch house at Minneapolis. Mr. Reeder has been instrumental in developing and perfecting a thoroughly national sales organization for distributing the products of his company's oil equipment department. In connection with this work he has been spending a great deal of his time in traveling. The company now has distributors located at practically all important centers in this country, and does, as well, a considerable export business.

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Prices and maps on request.

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Dunn Mfg. Co.

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Sinclair Refining Co.

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Bessemer Gas Engine Co.
Hope Engineering & Supply Co.
Sullivan Machinery Co.

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Republic Supply Co.
Reading Iron Co.

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Thos. Lunkenheimer Company

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Robinson Packer Co.

Maps—
Heydrick Mapping Co.

Meters—
Continental Supply Co.
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Twin City Co.
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Petroleum Iron Works Co., The
Republic Supply Co.
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Robinson Packer Co.
Smith Separator Co.
Southern Brass Mfg. & Plating Co.
Superior Tube Co.
United Iron Works, Inc.
W-K-M Co.
J. H. Williams & Co.

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Frick-Reid Supply Co.
Republic Supply Co.
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Erle P. Halliburton

Oil Well Shooting—
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Layne & Bowler
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Pelican Well Tool & Supply Co.
Regan Forge & Engineering Co.
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Williamsport Wire Rope Co.

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Jesse R. Stone

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W-K-M Co.

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Pipe Threading Machines—
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Standard Engineering Co.

Pipe Vises—
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Pipe Wrenches—
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Trimont Mfg. Co.
LeBus Rotary Tool Works
Republic Supply Co.
J. H. Williams & Co.
Wickwire Spencer Steel Corp.

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Butler Manufacturing Co.
International Derrick & Equipment Co.

Portable Drilling Rigs—
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Continental Supply Co.
Lee C. Moore & Co.
Parkersburg Rig & Reel Co.
The National Supply Cos.

Pulleys—
Continental Supply Co.
International Derrick & Equipment Co.
Lee C. Moore & Co., Inc.

Pulling Machines—
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Continental Supply Co.
Iron King Mfg. Co.
Safety Pulling Machine Co.

Pumps—
Axelson Machine Co.
Bradford Motor Works
Continental Supply Co.
D. & B. Pump & Sup. Co.
C. C. Fetty
Frick-Reid Supply Co.
Gardner Governor Co.
Gaso Pump & Burner Mfg. Co.
Goulds Manufacturing Co.
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Lucey Manufacturing Corp.
National Transit Pump & Machine Co.
Northrup Equipment Company
Oil Well Supply Co.
Pelican Well Tool & Supply Co.
Republic Supply Co.
Southern Engine & Pump Co.
Texas Oil Pump Co.
United Iron Works, Inc.

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Continental Supply Co.
Sullivan Machinery Co.

Pumping Engines—
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Northrup Equipment Company
Shaffer Specialty Co.

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International Supply Co.
Jarecki Mfg. Company
Jensen Bros. Mfg. Co.
Kansas City Hay Press Co.
Spence Machine Co.

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Humble Oil & Refining Co.
Magnolia Petroleum Co.
Sinclair Refining Co.
Texas Co.

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Fort Worth Laboratories

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Oil Conservatior Engineering Co.
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Westcott and Greis
Wyatt Metal & Boiler Works

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Oil Well Supply Co
Parkersburg Rig & Reel Co.
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Lorraine Corp.
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McIntosh & Seymour Corp.

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United Iron Works, Inc.

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Emsco Steel Products Co.
International Derrick & Equipment Co.
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Parkersburg Rig & Reel Co.
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Parkersburg Rig & Reel Co.
Superior Tube Co.

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Sucker Rod Hangers—
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A. H. Brandon

Sucker Rod Hooks—
The Cunningham Co.

Sucker Rod Sockets—
Baird Supply Co.
Bradford Motor Works
Brown Welding & Machine Co.
Continental Supply Co.
The Cunningham Co.
Shaffer Specialty Co.
Western Supply Co.

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Continental Supply Co.
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Gants Tank Co.
Graver Corp.
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United Iron Works
Wyatt Metal & Boiler Works

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Johns-Manville, Inc.
Oil Conservation Engineering Co.
Parkersburg Rig & Reel Co.
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Tank Insulation—
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Tank Roofs—
Johns-Manville, Inc.

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Fort Worth Laboratories

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Guiberson Corp.
Howard Smith Company
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Pelican Well Tool & Supply Co.
J. H. Williams & Co.
Wilson & Willard Mfg. Co.
W-K-M Co.

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Bridgeport Machine Co.
Continental Supply Co.
Emsco Steel Products Co.
Hughes Tool Co.
Pelican Well Tool & Sup. Co.
Regan Forge & Engineering Co.
Republic Supply Co.
W-K-M Co.

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Bridgeport Machine Co.
Brown Welding & Machine Co.
Continental Supply Co.
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Hughes Tool Co.
International Supply Co.
Oil Well Supply Co.
Peden Iron & Steel Co.
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Regan Forge & Engineering Co.
Republic Supply Co.
Star Drilling Machine Co.
Sullivan Machinery Co.
W-K-M Co.
Western Supply Co.

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Continental Supply Co.
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Regan Forge & Engineering Co.

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Continental Supply Co.
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Guiberson Corp.

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Tubing—
Continental Supply Co.
Republic Supply Co.
Reading Iron Co.

Underreamers—
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Continental Supply Co.
Wilson & Willard Mfg. Co.

Vacuum Pumps—
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Sullivan Machinery Co.

Valves—
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Continental Supply Co.
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The Charles N. Hough Mfg. Co.
Ludlow Valve Mfg. Co.
The Lunkenheimer Company
Norris Bros.
Northrup Equipment Company
Oil Conservation Engineering Co.
The Wm. Powell Co.
Pratt & Cady
Reading Steel Casting Co.
Reading Valve & Fittings Co.
Smith Separator Co.
Sour Lake Machine Co.
Southren Brass Mfg. & Plating Co.
Texas Oil Pump Co.
Westcott Valve Mfg. Co.
W-K-M Co.

Valves, Gate—
The Lunkenheimer Company

Valves and Fittings—
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D. & B. Pump & Supply Co.
Jarecki Mfg. Company
Ludlow Valve Mfg. Co.
Lufkin Foundry & Machine Co.
The Lunkenheimer Co.
The National Supply Cos.
Peden Iron & Steel Co.
The Wm. Powell Co.
Pittsburgh Reinforced Brazing & Machine Co.
Pratt & Cady
Republic Supply Co.
Reading Steel Casting Co.
Reading Valve & Fittings Co.
United Iron Works
W-K-M Co.

Vapor Tight Insulated Tank Tops—
Johns-Manville, Inc.

Walking Beams—
Continental Supply Co.
International Derrick & Equipment Co.
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Continental Supply Co.

Working Barrels—
Axelson Machine Co.
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Continental Supply Co.
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Howard Smith Company
Northrup Engineering Company
Republic Supply Co.
The Charles N. Hough Mfg. Co.
Southern Brass Mfg. & Plating Co.
Texas Oil Pump Co.

Water Gauges—
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J. E. Shaffer Company
Smith Separator Company

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Continental Supply Co.
H. P. Gott Mfg. Co.

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Ward Chemical Company

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American Cable Co.
Bridgeport Machine Co.
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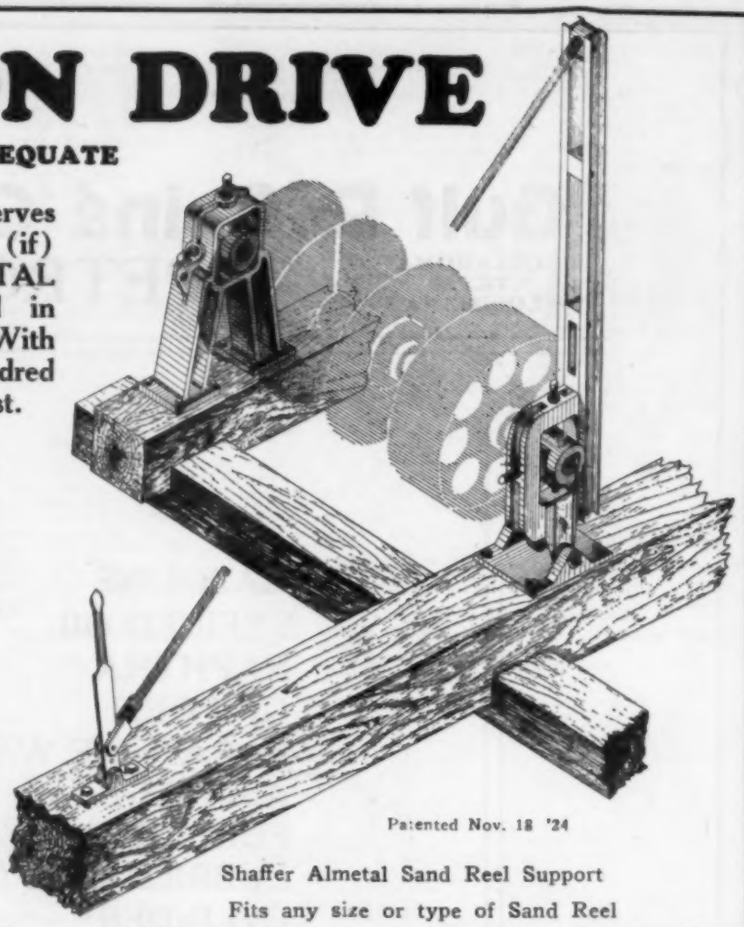

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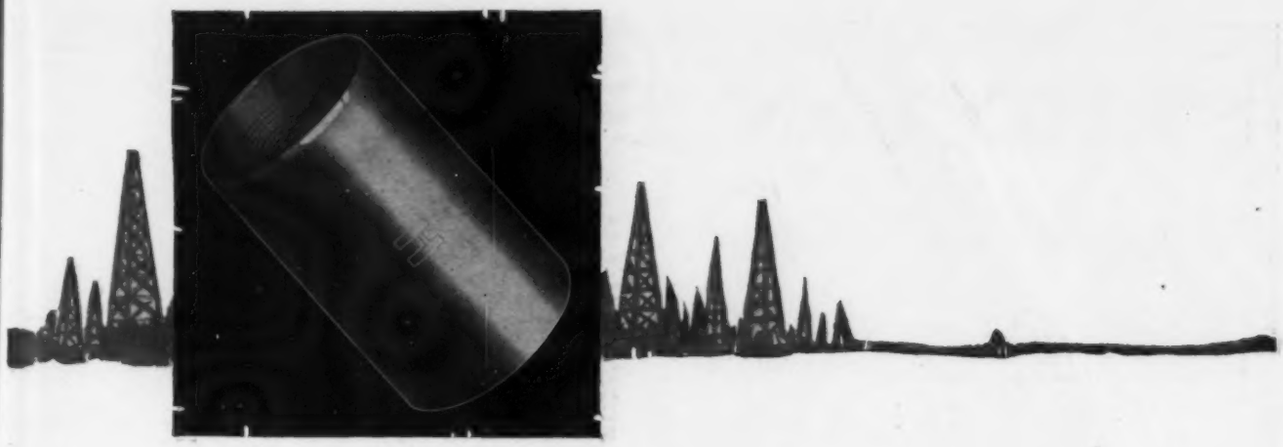

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